CONSTRUCTION AND DEMOLITION FORUM:

CLOSING THE LOOP ON C&D MATERIALS

STATE OF CALIFORNIA

INTEGRATED WASTE MANAGEMENT BOARD

JOE SERNA, JR., CALEPA BUILDING

1001 I STREET

2ND FLOOR

COASTAL HEARING ROOM

SACRAMENTO, CALIFORNIA

WEDNESDAY, MAY 31, 2006

9:30 A.M.

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CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 12277

APPEARANCES

BOARD MEMBER

Mr. Gary Petersen

Ms. Pat Wiggins

PANEL MEMBERS

Mr. Stephen Bantillo, Commercial Solid Waste Program Manager, City of San Jose, C&D Diversion Council

Mr. Adam Barrows, Two Rivers Demolition, Inc.

Mr. Jack Ezekial, Senior Transportation Engineer, Caltrans

Mr. Charlie Ketcham, Commander, Navy Region Southwest, San Diego Navy Base

Mr. Raffy Kouyoumdjian, Integrated Waste Management Specialist

Mr. Gary Van Dorst, Solid Waste Manager, City of Redlands

Dr. Wayne T. Williams, Program Coordinator, Solid Waste Planning and Recycling, County of San Diego

Mr. Glen Worthington, City of Irvine

STAFF

Ms. Bendan Blue, Board Advisor

Ms. Nancy Carr, Staff

Ms. Catherine Cardoza, Acting Branch Manager

Mr. Greg Dick, Staff

Ms. Terri Edwards, Staff

Mr. Robert Horowitz, Staff

APPEARANCES CONTINUED

STAFF

Mr. Zane Poulson, Staff

Ms. Lorraine Van Kekerix, Acting Deputy Director, Diversion, Planning & Local Assistance Division

ALSO PRESENT

Mr. Evan Edar, CRRC

Mr. Dave Staub, Solid Waste Superintendent, City of Santa Clara

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PROCEEDINGS

ACTING DEPUTY DIRECTOR VAN KEKERIX: I get to do the emergency announcement. I've been practicing my Vanna White pointing skills, so hopefully I'll do all right.

Everyone should look around now and identify two exits that are closest to you. In some cases, those exits will be in back of you. In the event of an alarm, we are required to evacuate this room immediately. If that happens, please take your valuables with you and staff will attempt to assist you in finding the nearest exit. But you should also know that you can just follow the exit doors by the ceiling-mounted exit signs.

The evacuees will exit down the stairways and possibly go to a relocation site across the street in Cesar Chavez park. If you cannot use the stairs, you will be directed to a protective vestibule inside a stairwell. If you have to relocate out of the building, please obey all the traffic signals and exercise caution when crossing the street.

So hopefully we will not have any kind of emergency evacuation and we can just get on with our program for today.

I'd like to welcome you here, as well as all of the people that are listening in on the web as this is a live web telecast. If you have any questions and you're

out about on the web, you can e-mail us at tedwards -- so that's tedwards@ciwmb.ca.gov. On the subject line just type in C&D forum, and we will know that your message is in regards to this forum. If we are not able to get to your question during our question and answer sessions, we will get back to you after this forum with a response.

Our agenda today is pretty full. We will have two panels and a question and answer session at the end of each panel with a short break between the panels. The first panel will be on creating infrastructure for diverting C&D materials, and the second panel will cover markets for C&D materials.

Finally, back to more of the logistics. There are rest rooms on this floor, out the doors at the back of the room and to the left. And we're going to try to wrap this up at 12:30 if possible since we have a Board meeting starting at 1:30. If you need something to eat, there is a snack bar downstairs. And you're welcome to go there and get yourself something to eat.

Now I'd like to introduce our Board Chair of the Sustainability and Market Development Committee, Gary Petersen, who has a few words for you about C&D diversion.

BOARD MEMBER PETERSEN: Thank you, Lorraine.

Good morning, everybody.

First, I'd like to see some hands on who is

involved in the private sector side of C&D recycling in the room. And from the cities and counties. Well, great.

Well, first of all, I'd like to thank the panelists for making the trip up here today and to make the presentation on a subject that I have been involved with for a long, long time, which I'll explain in a few minutes.

And it looks like we have a great audience. You guys are all enthusiastic about building materials, right up and down. Implementing diversion programs that target major material types is the most effective method for a jurisdiction to meet its AB 939 goals. Construction and demolition, or C&D, waste is a major material type that can significantly impact jurisdictions' rates.

As many of you know, there is a lot of development occurring in California these days, building everywhere, generating a lot of C&D. One of the things the Board has done to help address this issue is to conduct a new waste characterization study that looks specifically at wastes from construction and demolition debris sources. The study gathered information on the quantity and composition of C&D waste in major metropolitan areas of the state, providing us with more detailed information on this important waste stream than ever before.

As a result of the study, we now have detailed data for several different sectors, such as new construction of both residential and non-residential buildings, remodeling projects, roofing, and demolition projects. The study revealed that up to 70 percent or even more in the business -- though we can probably get higher than that -- of the waste from those sources are potentially recoverable and there is still a lot of asphalt, concrete, wood, and other materials available for recycling. The study will be discussed at the June Board meeting, and reports on the study will be published at that time.

Although many jurisdictions have adopted C&D ordinances or policies to address this waste, it is clear they must have adequate infrastructure in place to handle the materials to realize any diversion. This will be a key to the success of any jurisdiction's C&D program. For even with ordinances in place, it may be ineffective or not enforced in absence of adequate infrastructure. And that's the topic of panel one today.

Also, while it's good to recycle these materials, it's best to close the loop by purchasing back recycled content products, and more specifically for this forum, recycled content products generated from C&D waste. Creation of markets for C&D materials will be the focus of

our second panel that will include a presentation by recycling market development zone, RMDZ, staff on the resources available to assist the creation of markets for C&D materials.

We are hosting this forum today because many jurisdictions have asked about establishing infrastructure and how to close the loop on this material through purchasing and creation of markets. We also realize there are many challenges to implementing diversion programs, especially C&D programs. Our speakers today have a wealth of information to share with you on these topics.

I will just share with you some of the history. We were involved, my company, Ecolo-Haul Recycling, back in the earlier '70s and into about 1970s, 1980s a project in Santa Monica where we found that we had some extra room in the city yards. And we were trying to figure out what we were going to do with this extra room. And we talked to a demolition company, Blue Diamond cement company, if they'd be interested in working with us on recovering C&D materials, mostly asphalt and cement from road beds. So we brought it into the city yards. We ground it back up. And the city of Santa Monica at the time had a huge rebuilding project for roads within the city. And we consistently brought in stuff from all over the city of Los Angeles because we were surrounded at the time and

used that road base for the city of Santa Monica. So it started early on when we got into this.

And then approximately we were working on -- called the greening of the white house in the '90s, early '90s. Got us involved with a bunch of guys -- people from all over the country to do this project. And what happened was we decided -- and there was a couple of very instrumental leaders coming out of this project of greening the white house that started the U.S. Green Building Council. And part of that was we were talking about we're going to do the thing on energy efficiency and the building envelopes. And I'm saying, hey, guys, we have an opportunity bringing buildings down to recycle this stuff and opportunity for construction and demolition debris or construction debris when you're actually building the building. And many of you know that LEEDS now has criteria for doing this.

And some of the projects we worked on were really fun. I mean, it's like Tim Allen and Home Improvement. We did a project in L.A. which was originally the Hughes Aircraft factory. We brought down 11 of the 22 buildings, which it probably ended up where we have two huge piles of construction and demolition debris on site. And the fun thing was that there were seven miles of roads that were designed into the project. And with the asphalt and the

stuff pulled out of the building, we were able to use that for the road base for the entire project. And we got a 92 percent recycling rate.

So anyway, there's a bunch of projects we've done along the years, NRDC and a bunch of them. I know what the business is about and how it works. And it's a lot of fun, because it's a new frontier. And we're also dealing with one-third of the waste stream, which is a big part of what we're doing.

The other impact that is more global -- I don't know if anybody read USA Today or yesterday. There's a whole series in here this week on climate change and global impacts on what we're doing. This industry -- especially what we're doing in C&D has huge impacts on global warming from all the resources that we can save and not contribute to global warming gasses.

So I hope today that you find this very interesting and gather a lot of information and we kick C&D out in the forefront and make it happen in the recycling world.

And I want to thank you for letting me open this up today. And I'd like to turn this back over to Lorraine. Thank you very much.

ACTING DEPUTY DIRECTOR VAN KEKERIX: Next we have an opportunity to hear a little bit more about the Board's

newest characterization study. We're just getting the pieces finalized, and we will be presenting the whole study, all the parts at the June Board meeting. On Board meeting day itself, not at the Committee meeting. But Nancy Carr is going to tell you a little bit about the C&D portion of the study.

MS. CARR: Well, as Gary mentioned, it's the first time we've done a study specifically on waste from C&D activity. So we're very excited about that. And what better place to tell everybody about it than here today. And I think Gary gave you a lot of information of the detail that we're going to have on material types and sources and amounts.

But what I wanted to let you know about today is part of that study was looking at ways to characterize C&D waste since it is different from typical MSW. So one of the things we looked at as part of that study was to do a visual method of how to characterize that waste because it's so big and bulky it's hard to hand sort it. So we used a visual method to do the statewide study, but we also tested and developed a method specifically for local government staff to use, for non-experts to be able to go out and look at their own C&D loads to get more information on what is happening in their own jurisdictions, at their own local landfills, if you want

to look at that instead of having to depend on the statewide study that we did.

So what we have today is a draft version of the method report that we put together. This is the actual method step by step that you could use to go out and look at your own C&D loads. It has definitions of material types and a little aid to help you, you know, kind of calibrate yourself to look at loads visually to try to determine the materials that are in it and the amount of those materials.

So what I'm going to do is put some copies of this on the back table, and feel free to take a copy if you think you're going to go out and look at your own C&D loads, which I highly recommend, to really see what's going on at your local landfills. And this is still a draft version. When it's finalized, we'll publish it on the website on the publications page and we'll let you know when it's final. It's pretty much almost final, so you can sort of depend on this version now, but it's not quite final.

I didn't bring a lot of copies. So if we run out, I have a sign-up sheet to sign up and I'll get you a copy. Or I'll put my business cards back there too if you want to call me or e-mail me and let me know you'd like a copy. This is available today, brand-new, so I hope you

take a look at it and go out and look at your loads.

Once you gather your data, you need to analyze it to get an overview of what your loads look like. And part of what we're doing with this tool is to develop an automatic calculator so you can enter your own data. And the calculator will spit out your overall composition data for you. That's not quite finished yet. But when it is done, we will have that up on our website for you also. But this has an overview of how you can calculate your data if you want to. And if you get confused about that, call me up and I'll be happy to help. But that's because it's not all that complicated. But that is another part of this tool would be the automatic calculator that we'll have on our website.

ACTING DEPUTY DIRECTOR VAN KEKERIX: Now I'd like to pass the microphone over to the moderator of panel one, Zane Poulson, who has been with the Board's Office of Local Assistance for several years. And he's one of a few staff within the Office of Local Assistance who currently specializes in C&D outreach for local jurisdictions. And Zane will go over more details on panel one and moderate the panel for you.

MR. POULSON: Thank you, Lorraine. Our first panel today will be sharing experience with infrastructure needed to capture and recycle construction and demolition

waste. We know that developing the infrastructure is a key element for the successful C&D recycling program. And our panelists have agreed to share their expertise with us.

I want to remind you if you'd like materials and handouts related to today's forum, please place your name and e-mail address on the sign-up sheet in the back of the room. Also, please hold your questions until the Q and A session following their presentation. For those of you listening via our webcast who wish to participate in the Q and A session, you can e-mail your questions to Terri Edwards at tedwards.ciwmb.ca.gov with C&D forum in the subject line.

Our first panelist is Charlie Ketcham. Mr. Ketcham enlisted in the Navy in 1975, was an operations specialist. In 1989, he started his solid waste management career as Naval Amphibious Base Coronado's first recycling manager. In 1998, Mr. Ketcham was selected to the staff of Commander Navy Region Southwest Integrated Solid Waste Management Program.

Mr. Ketcham is currently the construction and demolition debris diversion manager for Navy Region Southwest Integrated Solid Waste Management Program and works out of Navy Base San Diego. His expertise includes organizing the infrastructure that the Navy needed to

implement their C&D debris recycling policy. In 2005, this program diverted in excess of 82 percent of all C&D debris generated within the metro San Diego region by the Navy and Marine Corps community. Mr. Ketcham is a member of the Solid Waste Association of America. He currently holds two certificates: One as a collection systems manager and the other as a construction and demolition manager.

Mr. Ketcham.

(Thereupon an overhead presentation was presented as follows.)

MR. KETCHAM: Thank you. I'm not real familiar with these types of panels. First, I'd like to thank Zane and Maria and the rest of the Integrated Waste Management Board for inviting me up here this morning to give you a little perspective on how the military is addressing construction and demolition debris issues.

I'd like to talk to you a little bit about the region itself. Commander Navy Region Southwest is headquartered out of San Diego, California. Our mission is to provide support services to naval installations and ships located throughout California, Arizona, and Nevada. We currently have 15 major installations that are open, 65 plus ships home ported in southern California, well over a dozen aircraft squadrons, and half a dozen helicopter

squadrons.

Personnel levels are currently in excess of 117,000 folks, military and civilian. So we have a relatively large community to deal with. Some of those installations are as far north as Fallon, Nevada. We address CBC Port Hueneme Naval Air Weapons Station, China Lake. We have four installations in the San Diego area. So we're pretty well spread out.

The landfill that the military community uses in San Diego is the Miramar Landfill. It is 800-plus acres located on DOD property, Department of Defense property. That area is leased to the City of San Diego. The City of San Diego operates that landfill. And as part of that lease agreement, the Navy and the Marine Corps community were allowed free tipping. That sets up some pluses and minuses which I'll get into in a minute which you can imagine.

Miramar Landfill was initially scheduled to close in 2005. Its projected life as of now is 2012. They just opened the last cell at Miramar as it stands now. So we have a finite closure date which is part of the reason that this program that I operate came into existence.

Part of the extension the City of San Diego directly credits to the military and the program we've kept well over a million tons of potentially landfillable

material out of the landfill since this program started. There may be hope for the landfill to stay open longer. There is a process ongoing now to extend the elevation of the landfill. I have personal opinions about how that will come out, but it probably will happen in the end. But we certainly can't count on that, so we continue to work on the efforts that we are.

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MR. KETCHAM: The reason that we developed this program, essentially the City of San Diego came to us in 1988 or '89 -- us being the military community -- and had figured out that they would never reach compliance with AB 939 as a city with the amount of material that the Navy was landfilling at that time. So they came to us and asked us to try to figure out a way to reduce the amount of material that the military community was putting in the landfill.

I'm going to focus today mostly on the City of San Diego, partly because that's where I am all the time. That's where I'm headquartered. And we have a unique relationship there with the City that allows us to do the program that I'm going to explain to you a little bit.

One of the problems that we had or the challenges that we had was that because the Navy and the Marine Corps community was allowed free tipping, the mind frame was

simply load it up and load off and haul it off to the landfill. We don't need to do anything else with it. It's the cheapest way to get rid of it. And we don't need to do anything else with it. That mind set was well imbedded in everyone. And to change that mind set is a challenge that unfortunately I still continue to deal with with some folks, although over the last five years we have been able to do that.

When the City came to the military, we developed what was called at that point a nine point-plan. We sat down amongst the military folks and tried to plan out how we would be able to resolve this issue. That nine point-plan then turned into an instruction which I'm going to talk to you here about briefly.

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MR. KETCHAM: We established what's called a Memorandum of Understanding, sort of the military term, although it's used in many municipalities as well somewhat with the City. And what we basically said in that Memorandum of Understanding was that we did understand what the issues were and that we had a plan in place now to address those issues.

One of the keys to that Memorandum of Understanding that came out of the nine point-plan was that we decided the only way that we would be able to

physically control what we did or did not enter the landfill was to issue what we call landfill coupons. So sort of the end result is -- I'm getting ahead of myself a little bit. But the end result was today and over the past five years, the Navy sends nothing to the landfill that doesn't have what's called a landfill coupon with us. There's a process for monitoring that.

We then developed a regional instruction -- of course the military doesn't function at all without instructions and guidelines. So we had to develop that guideline. It's called Commandant Navy Region Southwest Instruction 11350.1. The point I want to make to that is that the instruction carries the same weight as an ordinance would in the city. Once you get it to a written document and instruction phase, you begin to have a little bit of weight when you go in and talk to people and you can put it down on the desk and say the admiral signed this. This is law. This is not if you feel like doing it. So that was a big step for us.

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MR. KETCHAM: There are four types of landfill coupons that we issue. Landfill coupons are issued only out of my office, and there are only about three folks, myself and a few folks in my office, who are authorized to sign those coupons. Mixed construction and demolition

debris coupons, that's for material that we don't have the place to get rid of. General refuse coupons, that's the normal solid waste refuse stuff that's generated. Clean green coupons which are obviously clean green and clean fill coupons. So we regulate what goes in and the landfill tracks those four. I get a monthly report of those by coupon type.

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MR. KETCHAM: Let's talk about the instruction a little bit. The instruction requires all work with contractor and navel generators to submit either what's called a Solid Waste Management Plan or an Opportunity Assessment Form. We drawn the line at 500 tons at perceived waste or generated waste as the line between large projects and small projects. What we didn't want to do was burden folks who have to go out and tear up a sidewalk or that kind of thing would have to produce a document -- an encompassing document called a Solid Waste Management Plan. So we gave them a one-page form to do which is an Opportunity Assessment Form.

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MR. KETCHAM: On that plan or form, the project form, and the contractor, whoever is involved, must indicate the types and amounts of waste to be generated and the proposed final disposition of those wastes. Plan

must indicate what and how much debris is expected to be diverted and recycled and how much is expected to go to the landfill. So at that point early on in the process we're asking the project managers and the managers --

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MR. KETCHAM: -- to actually stop whatever it is they've been doing and take a look at what waste they're going to generate. And not only what they're going to generate, but what it is they're going to do with that waste.

This is an actual cover sheet of a Solid Waste Management Plan. This is actually a project that's going on now. They're constructing a new main gate and entrance at the naval area station in North Islands.

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MR. KETCHAM: This gets to be hard to read, and I almost can't read it. I apologize for that. But things that I wanted to point out in there are that this particular project they have defined they're going to generate 3,384 tons of waste and that 92.7 percent of that waste they're going to divert away from the landfill. So we have minimum requirements that we put on our contractors. The Navy standard, what's called the measure of merit, is a 40 percent diversion reduction. That instruction also says or the State mandate, whichever is

higher. We ask all of our contractors to target a minimum of 50 percent. But when I talk to them officially, I also let them know that I know better. You know, 50 percent is kind of the bear minimum. So this particular project is very well done. These guys are R.E. Birch Company we've been working on with a lot of these projects. I was very happy to see this 92.7 percent diversion rate when it came in.

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MR. KETCHAM: Again, this is a little bit hard to read and I apologize. But what I wanted to show us here is their material breakdown. They've broken down all the materials: Concrete, steel, wood, asphalt, soil, masonry, clean green, et cetera, and indicated to me how many tons they're going to divert away from the landfill. So this is sort of the process. I apologize for it being so small.

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MR. KETCHAM: Once they have done this plan, it is submitted to my office and reviewed by me. I'm looking for their efforts in the recycling, reuse, diversion, and landfill disposal as a last option. That plan is either approved by me as submitted or I send it back to them with comments if I see, you know, something that I don't like there. I just got done reviewing one before I came up

here where 22 said they were going to send 1200 tons of cardboard to the landfill. Well, not on my watch, as we say in the military. So that went back for comments and they came back and said, yeah, we didn't really mean that. But I still find folks who kind of only -- sometimes I feel like they're testing me to see if I really read them. But that's okay. Not too many of them get by me. As well as anything else, because my good buddies up at the landfill, if a load of that happened to come in, would take a nice digital picture of it and e-mail it to me and say, "What are you doing?" And then I get to take that back to the contractor and say, "What are you doing?" But so the plans are reviewed and approved through my office.

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MR. KETCHAM: Once they've been approved and the construction office gives the notice to proceed, our office will issue at the contractor's request through the project manager, the Navy project manager, a request for initial coupons. One of the ways that we found was best to control the landfill coupons and make sure they weren't being misused or abused was to only issue them for 30 days. So there is a start date. Thirty days later those coupons expire. Okay.

The landfill counts all those as they come through the gate. They send me a report. And the

contractor when he wants his second month's worth brings me back the ones he didn't use. So that way I know they're not out there being used for non-military waste being disposed of at the landfill, which at one point was a pretty big problem for us. So we went to that 30-day program.

Once the project is underway, the military project manager -- well, the project manager and myself will make periodic checks to the site to ensure that that diversion is occurring. It's one thing to tell me you're going to do it. It's another thing to show me you're doing it. So we do have a process in place for myself to go out and make sure that's working.

Part of the instruction and part of the contracts when they're let also requires the project to submit monthly diversion reports. Again, that's a check for me to know they are in fact doing what they said they are going to do. And to be honest with you, that's the biggest problem I have right now is drawing those reports in. It's a paperwork drill that our contractors are not familiar with doing and they consider it a burden. I consider it something they need to do to continue their project. So once in a while I go around and around with them about that, but it's not really that big of an issue.

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MR. KETCHAM: Does the program work? In the year 2005, the Navy generated potentially 247,445 tons of landfillable construction and demolition debris. Utilizing this program, we were able to divert away from the landfill in excess of 200,000 tons. The diversion rate in excess of 82 percent. This in an area where there's no mixed C&D recycling facility yet.

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MR. KETCHAM: End uses for the diverted materials. We have a very good relationship with the landfill, and they are able to utilize a lot of the materials that potentially could have been landfilled in other ways such as their mill to asphalt projects that generate milled asphalt. That asphalt is reused on a project or sent to a landfill for temporary roads. Eight-hundred acres is a lot of space. They lay that material down as roads and were given credit as a diversion on that because it's not going to the whole.

Asphalt normally ends up to local area recyclers. There is an infrastructure in the San Diego County, especially in the San Diego east county, where there are concrete and asphalt recyclers. If you were to call Miramar Landfill right now and ask them if they accept concrete and asphalt for the whole, they will tell you they do. And they do. They charge $43 a ton for that.

My program will not allow my Navy or Marine contract to put concrete or asphalt in the landfill. We banned it from the landfill. It's sent to recyclers.

Concrete used on base normally is a base material or sent to recyclers out in town, clean fill material, the landfill accepts from us. And they use it there as ADC. Again, doesn't count against us as going in the hole. Greens go to the greenery at the landfill. They go through their composting facility. We're allowed to draw greens from the landfill whenever they want mulch or compost material. Drywall cutting go to the greenery as well.

One of the areas with the contractors that I face some difficulty with, they're not yet real willing to separate their drywall cutting -- their clean drywall cutting from the rest of their waste, but we're working on that one. Clean wood cutting go to the landfill. They are ground up for wood chips. Again, don't go to the hole.

And reuse materials that come out in the Navy and San Diego working very hard on their Navy housing. There are redevelopment projects for three or four Navy housing areas in San Diego going on now. All of that material gets reuse. Material is the stoves, the garage doors, windows, refrigerators, all of the white goods, all those

kinds of things, as a mandatory rule or pull out. And it's most of them end up down in Mexico. But the contractors report all of that to me as diverted material.

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MR. KETCHAM: This is just a graph that shows you that in 1998 before this program was put into effect the Navy was contributing well over 20 percent of all the material that was buried at the Miramar Landfill. In 1999, when we instituted the program, we were able to drop that down. And in the last year, we were about five and a half percent of the 1.5 million tons of material that's buried every year at the Miramar Landfill. City is very happy with us.

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MR. KETCHAM: In conclusion, this type of program can work. I think I'm living proof of that. City of San Diego, as most of you probably know, has developed the C&D ordinance in part modeled by this program. We worked with the City probably for a year or so in development of their ordinance. If you don't know, they are holding that ordinance until they open a mixed C&D facility at Miramar. I won't tell you my personal views of that. But we're waiting for that to happen.

If you're going to institute a program like this, you must have the buy-in from all involved, whether that's

forced or voluntary. You must write it into your RFPs. You have to start very early on in the process, or you're doomed for failure in my opinion.

On site source separation is a must for this kind of a program. Contractors will balk at that. And in some limited instances, that may be a concern. My personal opinion is that's an excuse.

Lastly, don't write it if you can't enforce it. There are ordinances out there that are not enforced. They don't have the manpower to enforce the ordinance. And it becomes an ordinance like a lot of others. It's on the books, and that's all it is. So if you're considering a program like this or an ordinance like this, be ready to back it up or you're wasting your time.

I appreciate you taking the time to listen to how the Navy dealt with their program. We're proud of our program. I'm sorry. I didn't have one last slide. Okay. I'll be around. I have business cards. I'll be more than happy to give you my information. I left it off of my presentation, but I'll give you my e-mail and phone numbers and be more than happy to talk with any of you. Thank you.

MR. POULSON: We just got an update from cyberland. We have about 20 people listening to our webcast, so we're very happy about that. And greatful

that people are using the webcast option.

Our second panelist is Dr. Wayne Williams. Dr. Williams is a Program Coordinator for solid waste planning and recycling at the County of San Diego. He received his doctorate in plant pathology from University of California Davis. For 15 years, Dr. Williams worked in international development in 19 different countries, primarily in Latin America. During that time, he began working to improve landfills, dumps, and recycling in Guatemala, Costa Rica, El Salvador, Ukraine, Moldova, Uzbekistan. For the County of San Diego, he helped develop a regional strategy for developing construction and demolition ordinances. He set up an infrastructure to handle the C&D and disaster waste from the October 2003 fires in San Diego and is helping finance a new C&D facility in the county. He is the recipient of the National Sol Finestone Environmental Award and the 2005 President's Volunteer Service Award.

Welcome, Dr. Williams.

(Thereupon an overhead presentation was presented as follows.)

DR. WILLIAMS: Thank you, Zane. Thank you very much for arranging the conference. Thank you, Maria, for all of your help. It's my pleasure to be here today.

C&D, in January of 2002 in order to follow AB 939, the County Board of Supervisors for San Diego

directed the staff to come up with a plan to --

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DR. WILLIAMS: -- get us to 50 percent and maintain that 50 percent. We looked at the waste stream going in, and about a third of it was C&D materials and a third is organics. So we've picked both of those as our major topics for our program in the past four years. We started on C&D. The first thing we did was to find that the Integrated Waste Management Board had come up with a model ordinance. And we checked with all of the -- we came up with and checked with all the jurisdictions in the state and chose all those as models to use to draft up our C&D ordinance. And we wanted to do this in group for San Diego County as a region. There are 18 jurisdictions.

So going to the San Diego Local Task Force -- San Diego Association of Governments, we went to the Local Task Force of which the County is a member and said let's do this all together. Let's have one ordinance if we're going to have an ordinance. Let's have one set of forms the contractors can use so they're not confused. This uniformity was the rule during this process. We want to keep it simple so people wouldn't be confused and then we wanted an ordinance that was accountable. Any contractors or developers would have to have a waste management plan. There had to be deposits -- deposits could be returned on

a pro rata basis based on how much was returned.

During this period, all the San Diego meetings of the Technical Advisory Committee for this were open public hearings. We had about ten of those public hearings. And then several workshops were held with stakeholders to find out what the needs of the stakeholders were. Instantly, the argument came up, let's not have an ordinance. Let's have a policy. Policy, so we analyze that. Okay. What are the advantages and disadvantages of a policy versus an ordinance?

The conclusions that this county staff at least has come to were that -- as well as Allied Waste were that an ordinance drives the technology. The policy drives status quo. For example, the City of San Diego decided they originally wanted a policy instead of an ordinance and we talked with them vehemently -- not in a hateful way, but a cooperative manner. It was an ordinance that would drive the technology and ensure a policy would not.

One of the things an ordinance would drive is the -- are the facilities which is an next part of this presentation. Since San Diego didn't have any mixed C&D facilities at that time, the arguments by the developer community was that we shouldn't have an ordinance until we have the facilities on line. And the other argument was, well, we won't have the facilities unless we have the

ordinance. So it's chicken versus the egg.

We're going forward with the ordinance aspect. And now so is the City of San Diego. And about ten of the jurisdictions in the county are going for ordinances as well, either are considering them or have adopted them with two or three cities going for a policy.

One of the things that happened in the region was the City of San Diego decided to go ahead first on this issue of developing an ordinance, and the City Council directed the staff to get an ordinance drafted. One of the things they didn't have, however, was the administrative protocols within the city on how you would deal with this.

We know from Stephen Bantillo his trials and victories in how to do this. And so the County decided that we would have the administrative protocols set before we go to the Board of Supervisors. That's all done. We have everything set. We know how to deal with the deposits. We know how to deal with the enforcement. We know how much staff we have to have and we're ready to go so that when this ordinance goes before the Board of Supervisors hopefully at the end of July or early August, it keeps going back, but we will get there, any questions that the Board of Supervisors might have about process or protocol within the county itself will be taken care of.

At the same time we've also written a policy for the county administration on how they should handle or we should handle C&D issues because we realize it's not fair to require developers and contractors to follow a C&D ordinance if the county itself is not doing that because we are a very large constructor of various projects.

So that's only taken us four years to get to the point where we've now worked out all of the issues, and I mean all of them. We have two things to do yet. And we'll be ready to go forward for that to present that ordinance to the County Board of Supervisors.

The next thing is the C&D facility itself. We understand the concerns of the developers when they say why should you force us to abide by a C&D ordinance when there's no place to take this stuff. That's obvious.

So we decided to use an international development model for the county on matching funds. We had $400,000 in our accounts which were earmarked for this kind of activity. And we put up $400,000 on an RFP open bidding process saying that if we figured it would take in the minimum $1.2 million to build a mixed C&D facility in the county, we'll put up 400,000 in seed money if you're the winning bidder, the developer will put up two to one.

Well, so we put out the RFP. And we had a number of criteria which were necessary in that RFF to get the

facility going. We had two bidders. And the winners of the competition was Sanco which is a company of Edco, one of the largest integrated waste management company in San Diego County. And they're not putting up two to one. They're putting up eight to one. And we're very happy we forged a new partnership with Sanco and are eagerly awaiting the opening of their plant. Their equipment is ordered. It's state-of-the art. And they hope to put the first bolt in their warehouse floor to nail the stuff down by September. So we're looking forward to full funding.

So what are some of the criteria for offering this $400,000 of taxpayers' money to private industry to get a C&D facility going? One is that we're going to put a lien on your equipment until you recycle a certain amount of material. We calculate on the basis of tipping fees have to be around -- you have Edco is -- SANCO is going to have to recycle about 19,000 tons. When that happens, then we will take the lien off of their equipment and they'll own it full blast. There has to be a guarantee they're going to recycle about 100,000 tons a year and put through their plant and that they'll have to recycle at about 80 percent.

Another thing is that to act an as incentive we are requiring SANCO to charge less for their tipping fees than the equivalent would be in the landfill. So we will

monitor that. They have to submit monthly reports to us until this is paid off. By the way, our funding for this 400,000 comes from franchise haulers fee that the county charges $2.35 a ton from our non-exclusive haulers.

So we're looking forward to this being built. The permits are required of course. Both of the bidders on this -- the other one was Allied, and they also submitted an excellent proposal to us. Both of those companies have most of the needed permits. So this was a requirement that we put forth in our RFP. There are still some ends to tie up in the CEQA requirements and with its Regional Water Quality Control Board.

So what do they have to recycle, well, inerts? But as was stated earlier by Mr. Ketcham, San Diego County already has inerts recyclers. We have plenty of people who can handle cement and asphalt. In fact, one of the recyclers -- the market is so good, one of the recyclers in the county doesn't even charge a tipping fee. And so you can't say there's not a place for the vast majority of your material to go already into San Diego County since there are plenty of inert recyclers. But those other things, the steel, the metal, the wood, glass, all this other stuff the material is another story. And that's why we have funded the C&D facility with Sanco.

But they have to recycle at a minimum wood, metal

inerts, dirt, cardboard, and drywall. We would like them to do plastics if possible, but that's going to depend on their equipment. Also we require that the facility has to be physically located in San Diego County and that they must recycle at least in part some unincorporated county materials.

We calculate that this plant when operated at full boor of 100,000 tons a year is still only going to be decreasing the unincorporated county materials by about two percent, or 20,000 tons a year. 20,000 tons is one percent of our waste stream.

So that was going all fine about two years ago and then, wham, a fire broke out in San Diego County. And I want to talk a little bit about that because handling C&D during this massive fire we had was quite dramatic. There it is. That fire roared in. It burnt one third of the county. Those flames are 300 feet tall. The damage was significant. Everything that we were doing stopped as we were trying to deal with the anticipated debris of this fire, not even counting wealth and welfare. We were going to have a mess out there because of the huge amount of acreage that was burnt, and the thousands of houses that were incinerated. And so we devoted all of our time on that for many months.

About 4,000 houses burnt down. Some of these are

million-dollar mansions, like this one in Rancho Santa Fe. The smoke plume was enormous. This is a satellite photo of southern California. Most of the smoke went out to sea. I calculated a million tons of ash went out to sea. At one time there were about five fires going: Some in the Angeles/San Bernardino national forest and two huge ones in San Diego County and some down in Mexico. So it was a real conflagration.

My house was eight miles from the front at one time. And there were hot coals coming down on my balcony to the point we were afraid our apartment building was going to burn down eight miles away. 392,000 acres burnt. I visited personally about over a thousand of those houses. We lost 16 people to the fire. About four thousand vehicles burnt. There was a huge amount of material that suddenly become available to us and we kept thinking, no, this stuff is going to go in the landfill. We're going to loose our diversion even if we -- and how are we going to pay for this? We wanted to keep it on the out of the landfill. We wanted to recycle it as much as possible. First thing, we went to the county emergency disaster plan and found there was no section in there for dealing with solid waste. Incredible.

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DR. WILLIAMS: Here's a map of the fire. All the

color dots showing day by day the progression as it engulfed so many acres.

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DR. WILLIAMS: The aftermath. This is the once pristine Laguna Cuyamaca State Park in the Laguna mountains. Most of that is coming back amazingly well. Now spending about $27 million on just repair of the forests in the area and trying to take the fuel down so we don't have a repeat of this.

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DR. WILLIAMS: This is a site of Inland Pacific. Inland Pacific at that time had I think about over 100,000 cubic yards of wood. All our equipment burned up, everything. So there weren't -- our recycling, our biomass recycling plant in the county burnt up. By the way, they rebuilt that and it's operating better than ever.

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DR. WILLIAMS: So what's the strategy? You're in this disaster. People are dead. The county is completely mobilized. There's no debris, solid debris management plan. What are you going to do?

First decision, allow the private sector to continue to operate. We wanted to get bins out there like mad. People are flooding our established hotlines. Get

the temporary bins out there. Make them free. Try to monitor those bins so that we can segregate them so that we can do some recycling. The right-of-way issue was important. FEMA wouldn't pay any money if a bin was on private property. It had to all be on right-of-ways.

One of the issues we couldn't get started for about three weeks. The County couldn't make a decision for three weeks on this issue because FEMA wasn't helping us in a way that we could make any decisions looking at money from FEMA coming in. Five million dollars were immediately allotted to deal with that, but that was a drop in the bucket.

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DR. WILLIAMS: So what are we looking at? We've got all this debris. What's out there? Hazardous materials. What about all these led batteries that burnt up. What about all those solvents that burnt up? As it turned out, we didn't have a problem with paint and solvents and pesticides. They all incinerated.

But as it turned out, one of the main constituents of that debris was metal. Metal everywhere. You'll see some soon. And then all the concrete masonry and things like that. The ash became a concern to the LEA because the ash was toxic. How are you going to deal with ash? How are you going to dump ash into the bins? And

then if it's hazardous, where are you going to dump it? Trees and brush actually were a minor constituency and FEMA wouldn't pay for any of that.

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DR. WILLIAMS: Here's a place in Crest. You see metal. We see a chimney. I see hot water heater, stove, appliances, cabinets. There's a bunch of ash and there's a bunch of inert debris, but mainly it was metal that was one of our targets. Let's get all the metal out of there. If we put bins at random out, people were filling them up almost immediately with metal first because that's what we had to do to get down to the foundation.

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DR. WILLIAMS: Batteries, this is an old machine shop that burned out. Batteries there. Hazmat right-of-way. We tried to identify all those sites. It was a huge job.

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DR. WILLIAMS: Cars. With the 4,000 cars incinerated, the flames were so hot if you had an aluminum block in your engine, it melted. If your wheels were made out of aluminum, they flowed down the street. Just cracked the asphalt all apart.

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DR. WILLIAMS: Here's a hotel. What was left?

Metal.

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DR. WILLIAMS: This is how people in their own home spontaneously would clean up. They would take metal first and segregate that almost automatically. There was a big education program on how to do that.

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DR. WILLIAMS: Here's an outline of what we did. We contracted with haulers and we divided the county up into various zones, because it's the size of the state of Connecticut. So there were various zones and various bids went out based on distance from the landfills and recycling operation.

Monitoring. We had to do the monitoring because FEMA wouldn't pay us if we didn't monitor. That was one of the glitches in this thing was that the monitoring system fell apart.

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DR. WILLIAMS: First of all, we had to have the right for the property owner to enter the property. That was a huge problem when you're dealing with 4,000 property owners, many of them who didn't know where their property lines were after the fire. All the fences were burnt down. FEMA wouldn't pay for foundations, sidewalks, driveways, and swimming pools. So we had to instruct

people not to leave that as they cleared off the debris first.

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DR. WILLIAMS: Then came the private sector NGOs, and they were fantastic, the Samaritan's Purse, the religious groups, the whole series of churches. And San Diego Gas and Electric did a great job of cleaning up. Several recyclers, they lowered -- companies they lowered their price so it wouldn't be such an economic burden on people.

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DR. WILLIAMS: San Diego Gas and Electric, one of the things they wanted to do was to recycle their telephone poles, thousands of telephone poles. I might be wrong, but I figured 12,000 telephone poles. How are you going to deal with 12,000 telephone poles tomorrow? They segregated them very well because those things are dipped in creosote, and there was hazmat. A lot of them were landfilled.

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DR. WILLIAMS: We had two phases. The first phase was the recycling section. My section took charge of it for the first month or so while we got a general contractor, PBS&J, to handle the rest. So we phased it in that way.

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DR. WILLIAMS: We set up two temporary C&D facilities. And they did a very good job, one better than the other, to handle all the cement and make sure that that was all segregated out and recycled. 42,000 tons of that went through those two recycling centers.

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DR. WILLIAMS: We had these large community drop-off bin sites. This is in Jullian.

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DR. WILLIAMS: Here's a constituency of the materials that we got. I'm hurrying through this because it's fairly long so you can read it. Look at the amount of metal. Still 57 percent was trash. Because we didn't have the facility, we couldn't separate it out. If we would have had our mixed C&D facility, we could have handled this emergency in a much better way.

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DR. WILLIAMS: Look at that very low recycling rate there of 24 percent.

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DR. WILLIAMS: Here are those two C&D facilities we set up. They had a 92 percent recycling rate. So they did very well.

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DR. WILLIAMS: And overall we came up with a 58 percent recycling rate, which I don't think is too bad considering this didn't even exist in our emergency plan when we started.

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DR. WILLIAMS: Compared to other big fire events in California, we had differences. Less debris versus compared to concrete. I think that is due to our segregation of materials.

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DR. WILLIAMS: Lessons learned, lots of them. First of all, if you're going to work 80 hours a week, have a plan. Every jurisdiction needs an Integrated Waste Management -- Solid Waste Management Plan as an emergency basis because the next emergency will come. Probability is one. It will happen. If you're not prepared, you're going to make a mess and lose a lot of money. FEMA won't pay you back for your expenses and people will suffer unduly.

The last I like the best. No recycle, no pay. You must have preexisting contracts with haulers that insist that they recycle once this happens. If that happens, then we can save our precious landfill space and continue on in getting over these disasters.

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DR. WILLIAMS: Look at item two there. The private sector recycled significantly more than the public sector did. In this case, I was responsible for the public sector, so it was my fault. You've got to have incentives to recycle.

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DR. WILLIAMS: That's it. Thank you.

MR. POULSON: Thank you, Dr. Williams.

Our next panelist is Stephen Bantillo. Mr. Bantillo is the Commercial Solid Waste Program Manager for the City of San Jose where he has worked since 1990. He was responsible for implementing the city's yard waste recycling program in 1991 and managed the curbside recycling contracts until 1998.

Stephen was responsible for research and development efforts on waste characterization, gate surveys, economic modeling, and facility certification procedures related to C&D and implemented the city's construction/demolition diversion recycling program in 2001.

Stephen also spearheaded the city's C&D grants at the onset of the C&D program. Stephen has served on the Board of Directors of the Construction Materials Recycling Association since 2001 and founded the California Resource Recovery Association's Construction and Demolition Council

that same year. Stephen also served on San Jose Unified School District's Board Oversight Committee for Measure F, a $429 million construction bonds where he also contributed C&D recycling and green building information for the school's construction projects. Recently re-elected to the Board of Directors of the National Recycling Coalition. Stephen served as Vice President last year and is currently the Chair of the Policy Committee. Welcome, Stephen.

(Thereupon an overhead presentation was presented as follows.)

MR. BANTILLO: Thank you. Hello. It's good to be here. Policy Committee: I wrote down Wayne's quote about policy, establishing the status quo, enforcing the status quo. Thank you.

I've got control over the clicker here. Uh-huh. I don't have control. There we go.

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MR. BANTILLO: About San Jose. It's big. There are a lot of people there. There's a lot of homes and buildings and businesses. And why is that relevant? There is a lot of stuff. Gary was talking earlier about the amount of construction and demolition materials out there. A lot of renovation projects. A lot of new construction projects. We're dealing with that type of

material in a very large order, and it was important for us to do something about it.

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MR. BANTILLO: So why C&D? We did a waste characterization study in 1998 and we found that 31 percent, basically a third, of our waste stream was construction and demolition material. In 1998, we did a gate survey following that and found that 26 percent of the material getting to the landfill was coming from the self-haul community. So we consider the self-haul community those folks Joe homeowner who is moving stuff from his house. There are a lot of contractors out there that aren't franchise haulers, but they have their own hauling arm of their company because they find it's more efficient for them to do it that way for scheduling as well as cost.

We followed that up the next year with a gate survey. We found that 50 percent of the construction and demolition waste that was getting to the facility was getting buried.

Part of what I'm going to be discussing today is our seed program, construction/demolition and diversion deposit, tying that to infrastructure, and looking at the infrastructure that you have. And I know there have been some challenges on infrastructure. I think that's what

most of us are dealing with, whether it's not having enough facilities, having land use issues, trying to get facilities permitted. But as you continue to look at your programs or look at your waste stream, try to figure out what you're beginning to do with the material, the infrastructure is terribly important and a major influence on decisions on how you design your program.

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MR. BANTILLO: And I don't have the slide here. Self haul. I was talking about that earlier. The part that we measure in San Jose is through our offices we have residential contracts. We have franchise haulers. They provide reports to us. Through the Disposal Reporting System, we find there's a whole sludge of material out there we are not tracking. But based on information we do have, we can back out. We find the self-haul community in that particular year generated 165,000 tons.

Now the reason why this is important to us is because the self-haul community operates outside of San Jose's incentive based programs. So we don't have any mandates in San Jose. Our City Council is not supportive of mandates or bans. At least they haven't been in various attempts over the years. But all of our programs are officially pay as you throw whether it's residential or commercial. The more you generate, the more you pay.

The more you recycle, the less you pay.

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MR. BANTILLO: So in a nutshell, we have a deposit program. We thought about doing coupons. In fact, that was what the staff had cooked up earlier. And unfortunately they were unable to make it work. There were some fatal flaws in it. So leave it to the military to pull it off. They have weapons. We're armed with vests and flashlights. So they can get compliance that way. But essentially somebody pays a deposit. They take the material to a certified facility and then they send their information back to the city and we refund their money, all of it hopefully.

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MR. BANTILLO: The deposit amounts, very similar to what Lorraine was explaining earlier. There are three main categories. You have new construction, remodeling, and demolition. There are lots of sub-categories that you'll find under there as you begin to delve into your programs. But essentially, these are the three main nuts to crack. And you can see that the rates that we charge on our deposits came out of our economic modeling where we found out that it costs a lot more to recycle materials that are coming out of a small or residential alteration. You have bathrooms, kitchen remodels with small loads and

really mixed amount of materials, versus on the demolition side or new construction side you have a lot of materials that have already been segregated in much larger loads. The economies of scale come into play. So it's much higher on a residential alteration than any other deposit amounts.

And we also have roofing. In a flat rate of $100, the independent roofing contractors of California really helped us push that through because it would have been included under our residential alteration. So if you have a 2,000-square foot home, you're looking at $2,000 plus deposit. We know that the roofing operates on a very thin margin. Talking with our planning folks and permit center they said you're going to chase these guys away from the permit center, and they'll be doing roofing illegally. So we came up with a thousand dollar flat rate on that. That's only four tear offs. When somebody is laying on a fresh new layer and not taking anything off, we don't charge a deposit on it.

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MR. BANTILLO: So deposit -- lots of numbers up here. We do about 7,000 a year. Projects that the permit center does roughly I think 13,000 or more permits that they issue every year, but deposits are paid on roughly 7,000. So again, large order of magnitude here.

We found it very problematic in trying to evaluate whether we would do solid waste plans that would take a tremendous amount of people. We thought to review all those plans with that many permits we thought plain and simple we'll just do a straight deposit, look in the information when it comes in the end. We had to find a way to allow those 7,000 permitees to easily recycle their material. We knew we weren't going to change them into recyclers overnight when moving down the list $4 million in deposits on an annual basis and a million dollars in refunds. It's not because people aren't recycling. They're just not asking for their money back. So this is a problem for us. I guess it's a good problem.

There's a balance somewhere around $11 million sitting in the fund. So we're earning interest on it. That's nice. But we really need to get the money back to people, and we're going to be working with a consultant to do some programming within the system that will allow us to extract who hasn't gotten their money back and start sending letters to people. That requires staffing we don't have yet. The city manager's office did approve a position for us. We're waiting for the Council to approve the budget next month and hopefully we get a person in place to manage the program on a daily basis.

A million square feet every year on average is

what's been going through our program that we've been assessing deposits on, and roughly one billion dollars in evaluation on the projects. This past year we had a really large project come through that was I forgot how many acres. But it was roughly 220,000 tons of debris that this particular project brought in. It was the old GE facility. And somebody completely demoed it. Right now it's sitting up there as bare dirt with some piles of crushed concrete.

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MR. BANTILLO: Mentioning roofing, because that's one of the areas that we need to focus on. At least I think based on the data that we've been getting. And again, Lorraine, the waste characterization study identifies that there's lots of potential for recovering roofing. Unfortunately, we're not getting the recovery level that we'd like.

If you look on the chart here, you can see it split, deposits with roofing and deposits without roofing. If we decided not to charge deposits on roofing, it would cut our workload in processing requests almost in half. From an administrative perspective, it sounds like a good deal, and we're seriously considering dropping roofing out because what we're finding is that the roofing industry doesn't travel far and wide looking for a place to process

or bury their shingles. You know, they're all about roofing. They're not about recycling generally. They're not about disposal. They're just about roofs and they have ways they have to get rid of it. We're finding that probably 99 percent of all the roofing jobs in San Jose, the materials from those jobs stay in San Jose and they're going to one of our certified facilities. So it's already getting recycled. So we're asking the question does it make sense for us to continue a deposit on roofing.

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MR. BANTILLO: Mentioned money earlier. What are you going to do with the money? If you look down at Item D, if you can read that, we did write into our municipal code that any moneys generated from the program can really only be used for supporting the program whether it's staffing, whether it's other recycling efforts, program efforts, and in this case here developer improves the infrastructure. We were thinking infrastructure all along. We did do some grants which come up in the slide here.

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MR. BANTILLO: At the very beginning of the program, this is before we started taking deposits and had any money to give away, we had roughly three quarters of a million dollars for the first two years that we had

offered up to the landfill and processing community and there were individuals who had some cool ideas on how they would divert more C&D from the landfills.

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MR. BANTILLO: They were spread out pretty broadly, but the ones that we awarded focused on where we were going to get the biggest bang for our buck and also on mixed C&D. Because again based on our waste characterization study and the gate surveys, a lot of that material that wasn't getting recycled wasn't mixed C&D. So we wanted to focus on implementing some kind of programs at their facilities to capture mixed C&D and hopefully divert it. We did have some challenges with some of the awards that we gave out.

Unfortunately, the challenges were related to permits that the facilities weren't able to get the permits approved to do what they had proposed for us. And again, some of that raises the issue of related to land use. There were some really good proposals, and unfortunately the other arm or another arm in the city wasn't on board with what we had hoped to do and wouldn't approve of the permits.

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MR. BANTILLO: Certified facilities. Now, we were looking at the infrastructure that we had in place as

we were starting our program, and it wasn't quite the infrastructure that we needed or wanted. So we tried to find ways to convert these facilities and get them to do more recycling. And that was where the certification process came into play. It was basically if somebody wants to get their money back from their deposit, they can take it to a certified facility, taking the recycling requirement off the generator and putting it onto the processor or the landfill.

You can see we have a number of inert facilities there at the top, the dirt, rock, concrete, asphalt, and metals. Those have been in place for many, many years. We didn't have to do much to certify them other than stand there, kind of hold up a thumb and say wow, look at all that stuff moving in and moving out. It was a little bit more formal process than that, but you can see we didn't really need to do much work to certify them. It was more of a formality. We want to get them on our list of certified facilities so the people who were doing the work now they could take the materials.

Five landfills. There are five landfills in San Jose, and they're handling the bulk of the mixed C&D that's coming from the various projects. We have reuse salvage that's not located in San Jose. We have another wood facility not located in San Jose. We have two carpet

facilities. One of them disappeared. It was sort of wiped off the property it was located on because the landfill was located at a facility and the landfill decided it wanted a different operation. They had an agreement with an individual to come in and process carpet and they were doing approximately 10,000 tons a year of carpet. And unfortunately, there was a different business decision made by the landfill owner. They moved offices from another location for economic reasons and in consolidation within their company and decided they didn't need to have a carpet processing facility or operation at their landfill.

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MR. BANTILLO: Certification. Again, this is the readers digest version on the certification. There are some very basic requirements. An application for certification, I'll show you what that looks like. Again, it's very simple. What we want to do is get an idea of what's going to be happening at a facility.

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MR. BANTILLO: They need to tell you who the responsible parties are. They need to tell us what kinds of material they've been accepting. They need to tell us what kind of materials they plan to accept and what are they planning on doing with the materials themselves. And

you can't read that probably. At least I can't with my glasses. But we want the contract information. We want some history on the performance of the facility.

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MR. BANTILLO: Some basic requirements of the facility operators. First and foremost is they need to be able to provide receipts to all of their customers who say I have a seed load. Here is my permit number. They're required to put the permit number on the receipt. They need to provide weights or volumes, the types of material. And hopefully if there is a contract or some company that called them there. We get that information as well so we're able to have a pretty good idea of what's moving material around the city and other data as desired. We haven't done anything with that yet. We are going to when we get the program filled be able to do a lot more analysis on it and be able to start fine-tuning things.

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MR. BANTILLO: As far as fine-tuning things, there's reporting requirements. This is the generic version. This is what we would look at for each and every category of materials. So we'd have this for concrete. We have it for asphalt, cardboard, metals, a whole slew of things. Mixed C&D as well in particular.

One of the things that in our program that we

don't give credit for anymore, we've phased it out, is alternative daily cover. Those facilities that had been using alternative daily cover had to wean themselves off of it. Or I guess if you're going solely on the numbers you see that some of the facilities have I guess boosted their diversion rate by taking in some more of the heavies to offset what they're doing on alternative daily covers. The facilities are very good at managing what comes in and what goes out and what they do with it at the location.

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MR. BANTILLO: There's several of the materials located at the bottom. Next to one of the red arrows I think you see C&D. That is by far the largest slew of the materials we're getting at these five landfills. That was 500,000 tons a year. And unfortunately the diversion rate I think says 56 percent. We'd like it to be a lot higher. Again, that's very challenging.

Again, I talked about the mixed C&D loads earlier. The facilities probably could do better. We're hoping that as we get someone to manage the program and start working out what money is available that we're going to do some more grants and target some of these materials that aren't getting recycled at the levels we'd like them to. One of the things we're finding with shingles is that a lot of them are being used for alternative daily cover.

The wood ones are being sent off to waste to energy for whatever PTU value is left in them. But primarily the shingles unfortunately are being used as ADC.

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MR. BANTILLO: You can see that some of the other materials up there have close to 100 percent recovery. We're not really concerned about that. But surprisingly, I thought that the concrete was going to be one of the highest tonnage materials that we're getting. But what you don't see is that the concrete and the asphalt and the metals are primarily going to those facilities that have been long established in San Jose. The numbers that don't show, you're seeing 1.5 million tons a year going for these facilities. What you're not seeing is the over two million tons a year that are going through all these other inert facilities that I've said have been long standing in the community.

So the questions that you came up with or that I come up with in trying to figure out where we go next in development of the program is looking at the infrastructure that we have in place what are the kinds of things we can do to change that infrastructure.

And again what we're finding in San Jose based on some policy direction as well practice is financial incentives. The landfills also have financial incentives

as well as the haulers and generators because there's $13 per ton disposal facility tax. So at the landfills you'll find they do as much recycling as they can anyway.

One of the things that we're finding somewhat problematic is that the landfills -- some of them are using large amounts of concrete as beneficial use. And it's unfortunate when you start looking at it in the Disposal Reporting System because it's a beneficial use, but it's a one-time beneficial use. There are markets in place that could easily accept that material, move it back into the mainstream, into loads and parking lots and things like that. So that's a challenge for us and trying to find a way to influence it.

But in closing, again, we came up with our program looking at the types of materials that were getting buried in the landfill, focused on what infrastructure we had in place and what we could do to influence that infrastructure. And the key component of what drives this program is the facility certification. We're finding that people that don't pull permits within the city, those materials by and large are staying within San Jose and getting to the facilities and getting recycled anyway. Thank you.

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MR. POULSON: Thank you, Stephen.

Our final panelist is Gary Van Dorst. Mr. Van Dorst is a Solid Waste Manager for the City of Redlands. He attended U.C. Berkeley and University of Pacific and holds a Bachelor's degree in philosophy and a secondary teaching credential in English.

He has been with the City for five years as a Solid Waste Manager. Mr. Van Dorst manages a full service municipal operation providing all commercial and residential collection with this a city of 70,000 people, including operations of the California Street Landfill. Gary Van Dorst is a former Solid Waste Superintendent for the City of Sacramento and Executive Director and founding staff member of the Sacramento Conservation Corps. Welcome, Mr. Van Dorst.

(Thereupon an overhead presentation was presented as follows.)

MR. VAN DORST: Good morning, everyone. All waste is lost profit, a concept that many in our line accept as a truism. And yet despite the seeming incontrovertability of the statement, I've come to the conclusion after 17 years both here with the city of Sacramento and with the city of Redlands that most contractors and commercial waste generators don't get it.

There are a number of reasons for this. They range from our inability to truly incentivize the person

that makes waste disposal and recycling decisions to the difficulty many people have changing the way they've always done business. Nonetheless, it is this fact or condition that has required us to become regulators. You're all used to that more than we are I think, those of you that work for the State.

But in any event, it's required us to adopt ordinances and to require recycling as a condition of the development in the absence of voluntary compliance. Politically, there's always some risk when we regulate development. For our part, we appeal to our City Council's sense of environmental stewardship and the need to address waste issues at the front end of development.

So with that introduction, I'd like to talk a little bit about City of Redlands recycling ordinance. City of Redlands City Council adopted its ordinance in the spring of 2003. So our ordinance has been in place now for about three years. I probably have about I would guess around 275 permits covered under that ordinance. Some of those permits cover subdivisions with as many as 100 houses. So that doesn't sound like a lot, but it covers a lot of development.

There are two parts to our ordinance. The first part pertains to the recycling of the construction debris. Demolition permits and building permits are not issued

until the recycling plan is submitted for our approval. And that's the approval of solid waste staff. That's an important point I want to make.

The second part of the ordinance pertains to post-occupancy. That is to say building permits similarly are not issued until a recycling plan for recycling post-occupancy is submitted and approved. Elements of the plan include the materials that are targeted for recycling, the flow of materials through the facility, as a precaution for removing architectural barriers to recycling. And there's a whole section related to an education plan for tenants and employees including but not limited to things like signage. In effect, our recycling ordinance conditions properties through the building permit process to require recycling following occupancy.

So how does that work? A new tenant calls our office to start commercial collection. Because it is a new facility or facility subject to recent tenant improvements, our customer service representatives know that the facility is required to have an approved recycling plan. So when and if the property manager objects to subscribing to our recycling service, fat chance. They're informed recycling is a condition of the development. And in effect, they're told it is required under ordinance. And in some cases we simply go to the

file. We make a copy of the recycling plan provided. And we have our recycling coordinator follow up.

The City's imposition of a recycling plan tied to issuance of the permit is friendly, easy, and convenient. Compact discs like these -- I've got some here for you if you'd like -- are available on public counters both in building and safety and in the utilities department where I work. And the information is also available on our website.

More often than not, contractors and developers are invited to my desk or one of the engineer's desk where we write the plan in their presence. It only takes a few minutes. It's an opportunity for us to talk to them about things like LEED, about CalMAX, about the RecycleStore, about the local reuse store that's operated by Habitat for Humanity. So it's a process that's often educational and easy for developers to comply with at the front end.

Many contractors and developers have commented that our permit requirements related to recycling are the easiest permit requirements to comply with when compared with other permit requirements at the city. So we actually get some good markets in that respect. So we make it easy and convenient for them at least at the front end. And we emphasize this approach to doing business when we presented our ordinance to the City Council for

adoption.

And finally, contractors and developers are required to submit documentation of compliance which is then tied to the issuance of their Certificate of Occupancy. That's a pretty good hammer to have in our business. Because in our Certificate of Occupancy is held up on a large facility, that can cost you thousands of dollars a day.

So in any event, I've brought a number of copies of the disc and please see me afterwards if you'd like that. It includes a copy of the counsel report, the ordinance. It includes the blank forms, and it includes model recycling plans, local recycling director, all the information that people have if they want to attack this on their own as opposed to sitting at my desk or one of the engineer's desks for a few minutes.

I think I'd like to talk a little bit at this point about what works and doesn't work. First of all, the large majority of our developers and contractors substantially comply with the construction requirements. A small portion partially comply. And a very small minority fail to comply at all or substantially non-compliance.

Second, the City's recycling ordinance is unique to the extent that it conditions property post-occupancy.

That is something that is at least as important if not more important than just targeting construction debris. Remember, most development is for all intents and purposes for in perpetuity. And an ordinance that requires recycling from future tenants quickly exceeds the waste targeted by an ordinance that only addresses construction and demolition debris. So I think that's something unique about our ordinance.

And third, the City regards its recycling ordinance however imperfect as its best tool for expanding its construction and commercial recycling opportunities.

So what does work? How do you deal with people that don't comply? Siting someone for a violation of the Municipal Code after they've landfilled recyclable C&D waste isn't very productive, and holding up their Certificate of Occupancy indefinitely doesn't make sense either. So on that basis I have some recommendations for those of you who plan to develop or design our own ordinances.

First of all, I recommend that you do include post-occupancy requirements. Remember, most developments for in perpetuity mean they are there forever. That means post occupancy requirements result in more waste diversion than C&D requirements in and of themselves.

Second, it's very important to consider one's

intra-departmentmental relationships when you design your ordinance. In general, I recommend that you reserve as much authority as possible for yourself, that the ordinances be drafted to insert your organization into the administration of the ordinance as much as possible.

Remember, your greatest challenges are likely to come from within. They are likely to come from other city departments, legal counsel, building and safety officials. And community and planning development departments are not interested parties in your endeavor.

Third, I recommend that you include deposits that are refundable based on the level of compliance. We've heard a good example here today, and that's something we're probably going to go back and do. I'm in discussions with our city manager and City Council or city attorney at this time. We didn't initially because of opposition. But we think we're going to go back and do that. I think there's support for doing it despite some initial concern on the part of our legal counsel that such fees may be illegal. Remember, don't call them fees. Because if they're a fee, they're subject to Prop. 218, and that means they have to be cost based. We're going to call them an incentive and disincentive. We'll see.

And fourth, not withstanding number three, be practical. It is our bane as public servants that all of

our authority comes from our respective City Councils and Boards of Supervisors and that developer interests are far reaching. And I would like to suggest an imperfect ordinance is better than none. By the same token, the best solid waste projects are always a matter of political will. And I think it's our responsibility in this context to be cogent and effective salesmen for good ordinances.

So in conclusion, if you don't have an ordinance, I encourage you to develop one. Exercise leadership, and take risk. Because that's what it takes. And that concludes my presentation. I have copies here of my CD. And I want to thank the Waste Board for inviting me to be here. Thank you.

MR. POULSON: We'd like to thank all of our panelists for panel one. We'll take some questions now. We are running a little bit behind, so we'll probably cut down our Q&A session quite a bit, just a few questions. And then our break we'll cut down also to 10 minutes instead of 15. So if you have to go to the bathroom, hurry fast.

Please raise your hand if you have a question. We have a couple of mike runners that will be bringing mikes around. Please be courteous to those listening via webcast so we can hear questions as well. Those people that are on the web can send their questions. They need

to e-mail them to Terri Edwards at ciwmw.ca.gov and use C&D in the subject line. So we'll go ahead and send our questions around now.

COMMITTEE MEMBER WIGGINS: Thank you. I'm Pat Wiggins, Board member of the Waste Management Board. And so this is a question for Mr. Van Dorst. You mentioned -- and I didn't catch it all about the post something.

MR. VAN DORST: Post-occupancy. In effect, we use the building permit process to do two things: Not only to require recycling of construction debris which is ultimately tied to issuing the Certificate of Occupancy which is a good hammer to have. It in effect conditions the property which is occupied. So that part of the recycling plan -- if it were an office, for example, it's specific as requiring desk side recycling containers. It follows the flow of material through the facility. It describes what materials will be targeted, which in our city we require the same materials that are targeted in our single stream recycling programs. And so in effect when that person calls in to start their service -- and in fact if it's a large project and it was covered under a city conditional use permit, our computer flags it. So when the customer rep calls up that address, there's this big flag that says recycling plant.

And even if that flag isn't there because it

wasn't covered under its CUP, or conditional use permit, the customer reps know from experience from our working with them that if it's a new project, if it's within the last three years, if it's a tenant improvement, it has a recycling plan or it couldn't have gotten the permit. So at this point we then require the recycling. So we think that's what one of the things that makes our ordinance unique.

COMMITTEE MEMBER WIGGINS: Thank you.

Now I have a question for Mr. Bantillo. When you talked about the deposits, I'm not sure if I follow what the goal of the deposits and how their refunds work.

MR. BANTILLO: The goal of the deposit is to give a financial incentive to the person who's pulling the permit for their project to recycle their construction and demolition waste.

Now, somebody came into our office and asked a very similar question slightly differently and said if you've got all these facilities in the area and they all recycle C&D, why do you charge us a deposit? And the reason why we charge the deposit is because the deposit drives the infrastructure. It drives the facilities to recycle, to participate. Because if they don't want to participate, they don't want to be certified by the City, then those people that are paying deposits and want to get

their money back will have to take their materials to another competitor of the facilities that didn't get certified.

UNIDENTIFIED SPEAKER: Stephen, on the table you're showing from your certified facilities there, I think you're showing over 95 percent diversion of wood waste. I was wondering if you can touch on where the wood materials are going from the certified facilities.

MR. BANTILLO: Generally, they're going to two different locations. Not specific locations, but streams. The clean wood/clean material is coming out of the facility. Some of it is being ground up and used as mulch. The stuff that isn't as high quality is being used as hog fuel generally. What's not being factored into that or actually the other 5 percent is some of that material is also being used as alternative daily cover depending on how contaminated that is.

MR. LARSON: My question is to Mr. Ketcham. And I was -- it sounds like you have a very impressive program in the Navy. And I guess I was curious about other branches of the military. And I guess my question is did the Navy do this on its own, or was this a local initiative? Or was this something from the Department of Defense that would apply to all branches if you will?

MR. KETCHAM: I'm a Navy representative. I only

work for the Navy. But I've been in quite a few military seminars. Diversion from landfills is an effort across the board. You know, it's included in BRAC closure plans now. There was a Department of Defense measure I mentioned in my program which is a 40 percent diversion rate. I'm not sure where that number came from. But that clause of complying with either the 40 percent diversion rate or the State mandate, whichever is higher, is in there.

MR. LARSON: So it would apply to all branches?

MR. KETCHAM: Yes.

MR. HOROWITZ: Bob Horowitz, Office of Local Assistance.

I want to talk about something -- Dr. Williams touched on it briefly, the chicken and egg sort of situation I think a lot of jurisdictions might find themselves in. Sort of open it up to the rest of the panel. What comes first if you have an ordinance but no facilities? Is that ordinance sort of doomed to not be enforceable, but can you get facilities you know if you don't drive the materials there? So I'm just wondering what you all think about what is the chicken and what's the egg.

MR. VAN DORST: Let me take a stab at that. I think San Jose is doing what is analogous to what

Sacramento City and County do where here locally. What they did which drove the development of facilities was you make recycling a certain percentage requirement or a condition of a hauler permit. And the point is once you do that, you create the collateral for people to go out and develop facilities because they know the waste will flow to their facilities. I think San Jose does something analogous so that but in a different way. But that makes sense.

And I've advocated doing the same down in my area. I'm one little city. We have enough source separate facilities where if you source separate your material on site and you bring it to those facilities, we have enough local facilities for people to get the documentation. But I would support something more regional. But again that requires cooperation of the county and sometimes more than one county in terms of those facilities. That's my first stab at it.

DR. WILLIAMS: I don't think the jurisdictions of the state of California would have gone to anywhere near the effort they have to achieve 50 percent diversion if it weren't for AB 939 which required it. It's not going to happen. People won't do it out of the goodness of their heart, because of the I think illogical aspect of our current system of capitalism wants to reduce costs no

matter what. And it's only a law which will drive businesses to react to certain levels of excellence.

MR. KETCHAM: Let me take a crack at it. I'm not a representative of San Diego, but I have sat through laborious discussions about this issue. And their decision was they can't put an ordinance in place if the infrastructure is not there. Now, the military sat there and said we're doing 80 percent without that infrastructure, come on, city. So it's a huge debate in some areas. And I can only tell you that the City of San Diego decided they will not put the ordinance in place until they had a mixed C&D facility on-line.

MR. BANTILLO: I think the regional approach is one that will solve some of the infrastructure problems or challenges. There are a number of cities around San Jose that haven't implemented C&D problems I think primarily because of either some of the political challenges as well as a lack of infrastructure. But San Jose is close enough that a lot of the cities are using San Jose's facilities for C&D processing and a few of the cities have implemented C&D programs and again use San Jose as a certified facility list because it's there.

I mean, you know, we talk about the chicken or the egg. Basically, you come up with the ordinance and you can phase things in to try to drive the infrastructure

to follow it. In our case, we had a good infrastructure. We just wanted to change it. So we put the ordinance in place. And of course we have an eight-page document of rules and regulations about certified facilities and what they're required to do. It's rules and regulations promulgated by directory, meaning we can change these things over time as we see fit to fine tune the system and try to manipulate the infrastructure to try to capture these materials that aren't being captured already. It's different degrees of infrastructure. And you can work with whatever you have as long as you're looking at driving it with an ordinance or some other kind of mandates if you want to call it that and moving things forward.

MR. EDGAR: Hey, Stephen. Evan Edgar here.

What's a key component of a certified facility when it comes down? Is it land use? Is it Waste Board permit? What makes it certified in its recycling rate?

MR. BANTILLO: What makes it certified is that it gets 50 percent diversion or better of all the C&D materials that are coming in or the C&D materials that it says it's going to be recycling. So when you look at our list of certified facilities, and there's brochures in the back of the room, it's a list of the materials that they say they accept. Now they might be accepting some other

materials they might not be certified for, and we don't factor that into the calculation. But in order to get certification, the litmus test is that you have to have all the permit tests that you need, whether it's Air Board, the Water Board, the Waste Board, and you know, CUP, et cetera. And then of course the demonstrated performance on 50 percent or better diversion.

MR. EDGAR: And the follow-up question would be once somebody is certified in today's age with land use -- what I'm seeing out there is a lot of new C&D facilities in today's age are trying to get sited. It's so tough nowadays to do that. Had these facilities not been certified in the past, what would your projection be new facilities be certified in the future in today's permitting structure?

MR. BANTILLO: Again, I think that depends on the type of processing operation that they've got that they're proposing for that particular site. It is always it seems a political process.

I did mention that some of our folks that we awarded grants to were unable to make use of that money primarily because of some of the land use issues and as well as some of the personalities in our planning department. There's been, you know, a long history of you know some of this business between some of the operators

and what's been going on in planning, building, and code enforcement. That's what it sounds like. And of course you know one of the facilities is located on the boundary of a neighboring city. The mayor of that city had also contacted our planning department and said over my dead body will you do that there, despite the operator already having the ability to put that operation in place on the original CEQA they had done on the project. So that's particularly frustrating for them obviously and us as well because we wanted to see a different operation there. So right now they're moving a lot of material in, but they're moving it off quickly and not doing a lot of processing on site.

MR. POULSON: Because we're running short, we're going to take one last question and take a ten-minute break. If you have questions after this, you can see them individually or we have some cards in the back and you can e-mail us the questions and we'll make sure they get answered.

MR. STAUB: Hi. I'm Dave Staub from the city of Santa Clara. And this question is for Dr. Williams. You had mentioned that San Diego County didn't have a disaster debris plan prior to the county-wide fires. Have you developed one since? And if so, what type of elements does it contain?

DR. WILLIAMS: We are in the process actively right now to do so. We have hired a contractor who has very good experience in the North Ridge earthquake disaster plan. One of the criteria are to have preexisting contracts with haulers and processors so that when a disaster happens you already know who your contractors are. You don't have to go through a bid process. These people are ready to go. They will know where to take the materials. I'd be happy to send you our outline of this.

MR. STAUB: Just one follow up to that. Is that like for unincorporated San Diego, or does that encompass everybody within San Diego County?

DR. WILLIAMS: It is our own jurisdictional disaster plan. But we will be taking this to SANDAG Technical Advisory Committee for educational purposes hoping they also -- any jurisdictions that don't have this will use ours as a model.

MR. POULSON: We're going to take a ten-minute break and come back for the second panel.

(Thereupon a recess was taken.)

MS. EDWARDS: Welcome back. My name is Terri Edwards. I'm with the Office of Local Assistance at the Waste Board. And I've been with the Board for a little over six years. So we'll just head right into the second

panel. And panel two is the panel for closing the loop on C&D materials, an overview of expansion opportunities.

While it's good to recycle materials, the highest level of resource management is to close the loop by purchasing recycled content products. We have therefore asked the four next panel of experts to share their experience related to creating markets for C&D materials. As with the first panel, please hold your questions until the Q&A session after the last panelist speaks. Again for those of you listening in on the web, you can send your questions to my e-mail at tedwards@ciwmb.ca.gov.

Our first speaker is Raffy Kouyoumdjian for the Recycling Market Development Zone, or RMDZ, section of the Board. Raffy has been with the RMDZ Program since 1993 as a zone liaison for local RMDZ jurisdictions. Raffy has worked with both rural and urban RMDZs and has been the liaison for several southern and central valley zones. His current assignment covers the zones in Riverside, San Bernardino, and San Diego areas. He has worked with recycling based manufacturing businesses in construction and demolition, tire, green waste, paper, plastic, and glass industries and promoting the benefits of the RMDZ Program. Raffy's economic development background at the California International Trade and Commerce Agency and his assignment at the Governor's Office of Permit Assistance

brings a unique perspective to the RMDZ Program and helps to facilitate discussions with the business sector. Raffy.

(Thereupon an overhead presentation was presented as follows.)

MR. KOUYOUMDJIAN: Today's goal is to introduce you to the RMDZ Program and its benefits and resources available to recycling based manufacturing businesses. Also I'm going to concentrate a little bit on infrastructure and demolition businesses.

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MR. KOUYOUMDJIAN: The reason for the RMDZ Program: AB 939 in 1989 required that all California jurisdictions divert 50 percent by 2000. And in order to help local jurisdictions achieve those goals, the RMDZ Program was established by the Legislature. Forty zones were designated over a four-year cycle. And currently after the ten-year cycle was over, only 33 renewed. So we have seven vacancies. We're probably going to have another cycle of designation next year.

The RMDZ Program was drafted to create markets for recyclable materials through the manufacturing of products. RMDZ helps put back into the economy the resources that were saved. By creating local markets for these recycled content products, the manufacturing

community reduces transportation costs and savings resources, both environmental and economic.

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MR. KOUYOUMDJIAN: Economic development and recycling. Recent studies show that recycling puts more dollars into the economy than disposal. Recycling a ton of waste has twice the economic impact of burying it in the ground producing more goods and services, generating sales.

Two recent studies were commissioned by the Waste Management Board: One by U.C. Berkeley and the other is a study called the California Recycling Economic Information Study to measure economic impact of recycling. I have these studies available. I didn't put too many slides up here regarding those. So if anybody wants to see those studies or wants copies of them, please come to me later and I'll get them out to you.

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MR. KOUYOUMDJIAN: The purpose of RMDZ partnerships is to encourage manufacturing from recycled materials.

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MR. KOUYOUMDJIAN: The RMDZ Program is a partnership between the State, local government, and businesses. This partnership benefits businesses in

communities by creating local markets for recyclables, creating jobs, increasing the diversion of waste materials from going to local landfills.

Loan programs overview. The RMDZ has a nice incentive to offer loans to recycling manufacturing based businesses provides direct low interest rate loans to businesses. Current loan rate is five percent. It's tied to the prime rate. It's every six months, once in June and once in December I think, is when the rates are established by the Board.

The business must be located in one of the 33 designated RMDZs. Eligible project must show diversion of non-hazardous solid waste from California landfills. Primary purpose of the loan is to assist recycling businesses financially for start-up operations or expansion projects that manufacture recycled content product diverting recyclables from our landfills. The key is that the business is creating a value added product using a material that's being normally diverted into a landfill.

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MR. KOUYOUMDJIAN: Targeted commodities: Construction, demolition materials, organics, composting, paper, plastics, wood, textiles, tires, electronic waste. These are the types of recyclables in which we place a

major emphasis in keeping out of our landfills.

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MR. KOUYOUMDJIAN: RMDZ funds can be used for machinery and equipment purchases, acquisition of owner-occupied real property, maximum of a million dollars, leasehold improvements, working capital, refinancing of onerous debt if related to the project at hand. Examples of ineligible uses of loan funds are R&D research and development demonstration projects and expenses related to hazardous waste.

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MR. KOUYOUMDJIAN: Details about the loan program. Type: Direct loans between the Board and the business. Amount: Two million dollars is the maximum that we will loan out on a project not exceeding 75 percent of a project's cost. Up to ten years for standard loans. If there is real estate involved we can go to 15 years. Fixed rate from term of loan. $300 at time of application. Half a point due at time of loan funding. Application processing takes approximately 60 to 120 days, depending on the complexity of the project and how quickly paperwork is turned around.

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MR. KOUYOUMDJIAN: Necessary permits must be obtained before approval. Loan applications are processed

on a first come, first serve basis and those ready to present to Loan Committee and the Board.

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MR. KOUYOUMDJIAN: Do zone businesses get loans? Answer is yes. We've done 135 loans. So far, over $80 million has been put out. Ten million dollars in loans this fiscal year. And $19 million is -- about $19 million is available for next fiscal year. These figures are a cumulative from the program's first loan in 1994.

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MR. KOUYOUMDJIAN: As a result of these loans, an estimated two million tons of materials are diverted from landfill disposal each year.

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MR. KOUYOUMDJIAN: Other services offered by RMDZ. We help finding feedstock, help businesses market their products, access to technical business expertise, refer businesses to other types of financing and grants, coordinate permits, connections with other government agencies. An example is a recyclestore.com website, recycled content products database, and trade shows that we participate in.

As far as helping businesses with getting their foot off the ground type thing, we coordinate with small business development centers and those types of resources

that are available to businesses.

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MR. KOUYOUMDJIAN: As far as construction and demolition, there is a handout in the back that has a listing of all the website links and what have you. But I just listed one here the Board's database on construction/demolition recyclers. The RMDZ Program has assisted 86 C&D businesses since its inception, businesses that have received loans. Of the above 86 businesses that I mentioned, 22 received an RMDZ loan. Those that deal with wood waste as feedstock are 46. Of those, nine businesses received an RMDZ loan.

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MR. KOUYOUMDJIAN: Our mission. Our mission is to benefit a business community while lessening its environmental impact.

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MR. KOUYOUMDJIAN: And information about the program's website and myself. Thank you for your time.

MS. EDWARDS: Thank you, Raffy.

Our next speaker is Glen Worthington, Manager of Planning and Environmental Services for the Orange County Great Park. Prior to this appointment, Glen spent five years working on the City of Irvine planning efforts for the former MCAS El Toro and was responsible for the

environmental impact assessment as well as planning and zone documents. Glen began working for the City in 1993 as a planner in the community development department. He has a Bachelor's degree from the United States Military Academy at West Point and a Master's in environmental studies from the California State University in Fullerton.

(Thereupon an overhead presentation was presented as follows.)

MR. WORTHINGTON: Thank you very much. Good to be here today. I thought I'd run through some slides and talk about our program.

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MR. WORTHINGTON: I just wanted to start by showing you a typical morning at a C&D site. We usually start with catered breakfast and coffee and bagels and things like that.

Actually, this is a picture from the groundbraking ceremony when we broke up the runways at El Toro and began that process, which was a very big thing in our community.

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MR. WORTHINGTON: This is a picture, pretty illegible, shows the overview of Marine Corps Air Station at El Toro. Base was closed by the Navy, sold, purchased by a consortium led by Lennar Communities called Heritage

Fields. We signed a development agreement with them and they gave us a thousand acres of land. So the green is a thousand acres of land roughly that we plan to build a great park on. When I say we, I'm talking about the Great Park Corporation. That's a corporation that has a nine-member Board of Directors, and five of those members are our City Council and the other four are independent directors.

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MR. WORTHINGTON: This is a picture of the winning competition plan that we had. We embarked on an international design competition for what we wanted to have in this park. The winning plan includes canyons, lakes, a cultural terrace, meadows, and a sports park. You'll notice it doesn't have any runways on it.

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MR. WORTHINGTON: Our Board adopted some planning concepts for us to follow to move towards creating this Great Park plan. There are four things -- five things listed here. This is all regarding the reuse of materials on the site.

One was to use as much material on the site as possible.

The other one is be sensitive to the impact on local markets. That was very interesting to me, but there

are other C&D recyclers out there in the world. And they made it known to our elected officials that they didn't want to see the quantity of materials that would be generated from a runway recycling project dumped on the market. So we had to be sensitive to that.

The Board wanted us to minimize the impacts of trucks in the community, seemed to make a lot of sense.

And wanted us to treat the contractor as a partner instead of just another contractor that you'd hire. So we had to establish and wanted to establish a very good working relationship.

And finally, they asked us to be creative.

And for us to be creative ultimately meant we had to create our own market.

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MR. WORTHINGTON: So this slide shows what we have there. The green is our urban quarry. Those are runways, taxiways, hangers, and some roadways. Our estimate is we have 3.3 million tons of material there. So we have a lot of recycling to do.

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MR. WORTHINGTON: We've chosen to consider the runways as a resource rather than a liability. So we are going to use a concept that our contractor proposed to us, concept called application engineering. I think the other

speakers here will know what I'm talking about there.

Typically, what we're trying to do is recycle these materials in a way that creates value. So we're going to tear up the runway which includes concrete, asphalt, base material, and we're going to try to find an opportunity to use that material on site, which means of course we have to coordinate with Lennore, the major builder. We have to coordinate with our city, our own city regulatory agencies to be sure that we'll be able to use that material.

And last but not least, we've learned through experience -- some experience so far anyway -- more later I'm sure -- that if we're going to say we're going to use recycled materials, we have to demand that recycled materials are included in the project design of all development on the base. Because if we just say it, it will never get speced and it will never get used.

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MR. WORTHINGTON: So here's what we see generally as the benefits of recycling on this base. Reduction in truck traffic which I've also mentioned. A reduction in material costs. Those in the construction industry tell me that material's getting more and more expensive. So to the extent that we can create materials that are useful on the site and then truck them from one

side of the site to the other rather than from ten miles or eight miles off the site, we're going to save on the cost of those materials.

Also another component of construction is having materials available. So by doing recycling on the site, by putting a plant on the site, we believe we're going to improve on having materials available when they're needed for the contractor.

And then finally this is just a great sustainable development opportunity. It's something our Board believes in. And more than that, get a lot of great PR out of having a great sustainable program.

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MR. WORTHINGTON: There are some issues related to recycling. They were brought up by some other speakers. But two that come to mind, air quality permits, Regional Water Quality Control Board permits. If I had any suggestion to the Integrated Waste Management Board, I'd suggest you work with those other guys. Because we walk in there fat, dumb, and happy saying we're doing this great recycling program and they just whack us upside the head with all kinds of permit requirements that may be excessive or may not apply to a recycling program. So there's an interesting dynamic program.

The other one is the acceptance of materials with

other agencies. Our contractors says he's going to make -- I don't know what these initials ASTM -- a certain size of a crushed aggregate material that can be used in road base, more importantly can be used in pipe bedding. Can be used some of that material can be used as aggregate in new concrete mixes. But doing all that stuff only happens if somebody will accept those materials. And we find that even in the local area we have a large water district. They tend to like virgin material for pipe bedding. So we have to work with them to prove to them that we have a material that will be -- we can make available that's just as good as virgin material.

So there's this acceptance of materials issue. And one of the things we've learned over time is that when you're doing a C&D operation, no matter how much you hope you're going to have to be able to recycle, you do wind up with some stuff that's not recyclable. So we have to figure out how to handle that. And for us, one of our challenges is we have to convince the folks who are telling us to recycle that some things aren't recyclable. So there's a challenge there. There's not a lot of that. But on an old base underneath a runway, heaven only knows what we're going to be able to find.

And then finally the last thing that tends to not come up as an issue until one starts operations which is

that recycling operations are not pretty. They're noisy. They're dusty. You do a lot of dust control. You manage all those kinds of things, but it happens. It's great fun. You know, guys love all the big equipment, you know, banging on runways and things like that. It's great fun to watch. But other folks don't like it in their community.

And of course the result of banging on those runways is you get a lot of rock. You put that rock in a great big pile, and we take that big pile and we process that rock to make smaller rocks, the rocks we can use. There's lot of piles of lots of rocks and people find that unsightly. So we want recycling, but we want it to be pretty recycling. So there there's some challenges there.

We try to keep people educated. And of course we have these artsy landscape architects who say they're going to light the piles with pretty colors, and then we might have people who want to keep the piles. So we got all those issues to deal with.

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MR. WORTHINGTON: So finally, I just have a couple slides. This is a breaker. And the next slide is a breaker breaking concrete.

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MR. WORTHINGTON: And the next slide is a

backhoe picking up a piece of concrete. So that's the virgin material we're going to have on this site, 3.3 million tons of it. This is the --

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MR. WORTHINGTON: -- site as it looks today, an aerial view, lots of runway. If you look carefully, you'll see lots of RV storage. You see RVs. We see lease revenue. We want to recycle runway, but we want to keep some RV parking as long as we can. This is where it's going to go.

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MR. WORTHINGTON: That's the site with the Great Park on it. We're hoping to see that sooner rather than later. So we're hoping within five years there will be a good portion of that park developed.

And thank you. I guess we're waiting until the end for questions.

MS. EDWARDS: Thank you, again.

Next is Jack Ezekian, Transportation Engineer for the California Department of Transportation, or Caltrans, in the headquarters division of Design Office of Resource Conservation. He has been with the department for 18 years.

(Thereupon an overhead presentation was presented as follows.)

MR. EZEKIAL: Hi. Thank you. It's nice to be here.

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MR. EZEKIAL: Just a brief overview of what Caltrans is, our mission and goals. Caltrans' mission is to improve mobility across California. And the goals there are the safety, mobility, and to continue on --

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MR. EZEKIAL: -- delivery, flexibility, stewardship, which is to preserve and enhance California's resources and investments.

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MR. EZEKIAL: So Caltrans is made up with twelve different districts that are located throughout California, and headquarters which is here in Sacramento. Throughout the districts, the twelve districts, those are all the design, the construction, and maintenance work that's actually taking place. Here in headquarters is mostly administrative specs and planning, along with some reporting and management is done here at the headquarters in Sacramento.

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MR. EZEKIAL: Again, Caltrans is the largest State agency consisting of approximately 21,000 employees. And their mission is to help manage and maintain more than

45,000 miles of California's highways.

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MR. EZEKIAL: I was able to get some photographs are of some Caltrans facilities. I imagine this is down in Los Angeles somewhere.

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MR. EZEKIAL: And there's certainly many miles of this open roadway asphalt pavement.

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MR. EZEKIAL: Also some retaining walls, barrier rails.

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MR. EZEKIAL: Landscaping.

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MR. EZEKIAL: And here we have some maintenance crews maintaining the highways.

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MR. EZEKIAL: So as you've seen in those pictures, most of the C&D debris that would be generated from a typical Caltrans project would either consist of some kind of concrete, asphalt, steel, or wood.

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MR. EZEKIAL: Typically, Caltrans, as a good steward of its resources, would try to incorporate the C&D debris back into the same project whenever possible.

Certainly it's not always done. Can't always be done. But one example of this is pavement pulverization.

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MR. EZEKIAL: And this consists of recycling existing pavement and using it for the base for the new pavement that will be going over it. And I have some photos here in just a second. So there's some really good advantages to doing this. There's no hauling involved. The recycling is taking place right there in place.

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MR. EZEKIAL: And we have some photos of that. Milled pavement, the existing pavement blade and moisten compact and then do an overlay on top of it. That's a good example of some of the recycling that can be done in place.

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MR. EZEKIAL: This doesn't happen all the time. We can't always do that. When C&D material is generated from a construction project, it becomes the responsibility of the contractor to dispose of it properly. So the contractor has this material with the concrete or asphalt, and they can either pay to dispose of it in a landfill or reuse it as material in future projects. And typically contractors don't take concrete to landfills all that often. We've noticed that they use it back in future

project and Caltrans previously didn't track this. Once it became the property of the contractors, it's their responsibility to dispose of it. And Caltrans never really tracked what the contractor was doing with it.

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MR. EZEKIAL: Now we're doing it. And I'll get into that in just a little bit.

Our specifications do allow up to 50 percent reclaimed asphalt concrete to be used in our base as base material. And our standard provisions even allow up to 100 percent of this reclaimed material to be used as base material. So that material that the contractor does take can be crushed and reused on future projects for Caltrans as long as it meets the certain gradation and specification for that base material. We can allow up to 100 percent of reclaimed material to be used.

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MR. EZEKIAL: So for State agencies, there's a State law, AB 75, which was passed in 1999 requiring all State agencies to divert at least 50 percent of the waste generated from entering landfills by 2004. In this law, Caltrans is considered large State agency, so each of those twelve districts need to submit a report annually and meet the minimum requirements individually separate from each of the other districts. So each year we turn in

basically 13 of these reports one for headquarters as well.

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MR. EZEKIAL: Part of AB 75 allows for the recycling of the C&D material. Like I mentioned before, we had never really tracked what the contractor was doing with it. So we needed to know what they were doing and have them report back. We had to write a specification. So Caltrans came up with this form. CEM 2025 is what we call it. The contractor fills out this form once annually and also at the end of each project, and then they send it back to the district recycling coordinator who compiles it and gets it into the AB 75 report.

Last year was the first year that we actually had the specification in place for it to be out into all construction projects. Prior to that, while we were developing the specification, we were selecting one construction project per district. We had to write a change order and have the contractor report back what was going on with that material on that particular project. So we were able to get some information over the years past and last year we got quite a bit more. But we're still trying to smooth out that process. And being last year was the first year, it went to all construction projects.

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MR. EZEKIAL: And this is what the form looks like. I'm not sure if you can read it all that well. But the contractor fills it out puts in the type of material that's being generated whether it was concrete, asphalt, metal, the amount, where it was going to, and then signs at the bottom of it. The resident engineer also signs off on this report. But the contractor is the one who fills it out and is certifying that what the information on there is correct.

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MR. EZEKIAL: And here's a sample of one that was submitted last year. So there are 300 tons of asphalt that was taken to diverted from the landfill. Some material is still taken to landfills, but a lot of it is being diverted. I had one of those -- I saw one of those that had 30,000 tons of concrete that was diverted from a landfill just from one project. And at any time Caltrans has, you know, hundreds and hundreds of projects going on throughout the state.

So we are feeling that this is a good way to capture what the contractor is doing with the material. So as a result, we're able to see where it's going and can account for it through this solid waste disposal and recycling report.

And actually that was my last slide.

MS. EDWARDS: Thank you, Jack.

Our last speaker will be Adam Barrows. Adam is in his fourth year with Two Rivers Demolition, Incorporated, and serves as the material recovery division manager where he works to minimize the residual waste from demolition activity. At the same time, Adam serves as the general manager of Second Cycle, Incorporated, which is Two Rivers' sister company. Adam's role with Second Cycle is to develop, manage, and oversee the expansion of all material recovery operations which encompass inert material recycling and construction/demolition debris recycling.

Adam is a graduate of Indiana University School of Public and Environmental Affairs where he received a Bachelor's of Science Degree in environmental management with an emphasis on water resources.

Prior to joining Second Cycle and Two River teams, Adam served as a GIS analyst with the Bureau of Indian Affairs in Alaska as the environmental compliance officer aboard the Emerald Star in the Gulf of Alaska.

(Thereupon an overhead presentation was presented as follows.)

MR. BARROWS: Hello. I'm going to talk about a lot here. I'm going to talk about demo jobs, recycling,

materials off the demo job, source separating of the materials, their markets, finding their markets, as well as markets for materials that are separated from construction, material recovery operations.

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MR. BARROWS: Who we are? Two Rivers is your one-stop demolition shop. We pretty much cover every aspect of tearing down the building. We'll go to a mall and do an interior gut of a department store, a small store or even a large store. We demolish multi-floor urban structures. We're a debris hauler. We're a concrete recycler. We're a C&D debris processor that provides environmental abatement services for led paint, asbestos removal, mold remediation. And we're consultants.

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MR. BARROWS: How we first look at a job? We look at the material volumes. We look to see how much metal is on the job, how much wood waste is on a job, how much green waste and how much inert materials. Not only does that help us figure out what we need to bid on the job, but it also allows us to decide if we're going to bring in a wood grinder to grind the wood on site and use that -- either sell that as either a walk-on mulch product or fuel to a cogen facility.

We look to see what the inert materials are, how much concrete is there. Is there enough concrete where we can transport in our own mobile crushing equipment to process that material which we can sell directly on site to the existing contractor who hired us to go back into the future project on the site, or do we look for other markets in the area, other projects going on and sell this material to those contractors?

We also look for the salvagable items that are on the job: HVAC equipment, electrical equipment, mechanical equipment, HVAC equipment such as the cooling towers, the chiller systems that cool large buildings. These all can be potentially reused. So we look for those markets. We track down companies that may be interested in purchasing those from us, and often it works great. They will come in. They will remove it, so it's not something we have to remove. And they will take it away, properly handle all the hazardous materials associated with those items.

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MR. BARROWS: Electrical items are easy: Electrical breakers, switch gear, motor control systems. Those essentially sell themselves. Very easy to get rid of rather than just trashing it for the scrap materials.

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MR. BARROWS: Architectural items. Sometimes we

find some architectural items that are worth salvaging. Some old skylights are awful nice and can generate some revenues, wood timbers.

We are a for-profit company. We're not one of these dismantling reuse companies. But often we find items that are of value that we will hang onto and market those items.

Mechanical equipment; it's the same story with mechanical equipment as it is with the HVAC equipment and raised floors. Raised floors that come out of servers, computer control rooms where all the wiring runs underneath. These floor are made of wood, metal, tile, multiple different things. It's generally something you find yourself throwing directly into the garbage. Well, they're highly reusable, except for the 20 percent of the time when the tile is asbestos containing material and it's too difficult to abate for resale.

Finding the right market for all these items. The first thing that we do at Two Rivers and Second Cycle is develop a list of buyers. We look in the back of Demolition Magazine. We look in the newspapers. We look in every periodical for every industry where these items may be able to be reused. And we develop, you know, lists of e-mails for each type of item. And often there's one guy will end up buying a host of these and they market and

try to find the end user. But that's something in my business where I don't have time to exactly find the end user in every situation.

So what we do is we develop these lists, put it to undisclosed recipients. You attach detailed photos and you record the information such as catalogue number, serial number, and send that out. And more than likely before the week is over all those materials have a home and somebody will pay for the truck to come get them and they're taken directly off the job site.

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MR. BARROWS: Dimensional lumber. As I mentioned with the architectural items, wood, timbers can be re-engineered, remilled and are very valuable to be reused in most construction projects.

Rough sawn lumber. If we come to do a demolition at a home that was built in the early 1900s where it actually has the two-by-fours, not what we see nowadays, but generally we save those because people look for those. People have old homes. They want to restore them. And they don't want to put new lumber in it, so we find the old stuff. We hang onto it. It's very valuable to us as it is to somebody trying to refurbish a home. Wood scrap from construction activities. I'll touch on our construction material recovery facility later.

But scrap from wood scrap from construction activities is not nearly as beat up as it is from demolition projects. Wood scrap is often, you know, eight- to ten-foot long and can be bolted aside and sold separately. And there's tons of homeowners wanting to make home improvements. And this is something that can be advised for free in Craig's list or a CalMAX or something that turns very quickly. Not to mention that you can reuse it for protecting building entryways or protecting items that will be saved, packaging.

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MR. BARROWS: Items that come off of our previous construction material recovery facility: Cardboard, which is really one of the largest items that we had come through our facility for all the packaging; plate glass from windows; colored glass; film plastics; green waste; scrap wood; concrete primarily from demolition activities not necessarily spoils from new construction. These materials are pretty self-explanatory, soffit stone. They'll send trucks to pick up your cardboard. You know, plate glass, colored glass, means recycling here does great for us on both of those as long as they are separated from each other. Americon Recovery in the Bay Area will send trucks to pick up your bailed plastics and generate a great deal of revenue for our company.

Scrap wood, you know, first we want to go for the highest, best reuse, you know, pulling that out. If that doesn't work, we'll go to a mulch product. If that doesn't work, we'll cogen it. And that generates decent money as well. Most of the cogen facilities in California will send trucks to you at no charge. So you really just have the labor, fuel, equipment cost getting the fuel ground and in the truck.

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MR. BARROWS: Issues with recycling on the job site, volumes of materials. A lot of times there's not a sufficient volume. If I'm doing a small job that's mainly drywall and that drywall may be one percent asbestos containing or if there's just a little bit of t-bar ceiling and ceiling tiles, you know, if I don't have the volume, I'm not going to source separate. It's all going into one dumpster. And we generally self-haul, and that material will end up going more than likely to Kiefer Landfill. It has an a very inexpensive tipping fee for us.

And once again, we are a for-profit company. And when it's cheaper to dispose of it, we often have to, as sad as that can be sometimes.

Storage of materials. Also recycling on the job site, it's difficult to store materials. Sometimes you

only have 20 days to complete a job.

After this forum today, I will go up to Marysville to where we're doing a demolition of a Wal-Mart. We have 20 days to get it down and gone. We don't have time to bring in concrete crushers on site to recycle that. And we have quite a haul to dump those materials. However, in this case I just got word today we were able to lease a piece of land around the corner short term from this job site in Marysville where we will take that material and we will crush it and sell it to the local markets.

So I mean, these are things we work hard on doing. I don't want to sound like we just want to take it to the landfill. It's the cheapest thing. We really work hard on making this right so we can reuse it. And it does generate revenue for it.

So time line and storage of materials are huge as well as fuel and labor costs. It's a lot of labor to source separate, and it's a lot of fuel to be sending loads of materials to different areas of town. So definitely some of the issues we have.

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MR. BARROWS: This is a picture of a job we're not quite finished. We got some water on the ground. There's a lot less in this photo left now. This was the

old Union Newspaper building just around the corner between 3rd and 4th on Capital. And this was a building where we recycled 99.6 percent I think almost exactly. Almost everything was handled by us on site. We source separated alters, the glass from the windows, the aluminum window frames. I think we had 36,000 tons of concrete that we recycled and sold off of the job site over a 20-day period. We had almost 1500 tons of rebar come off this job.

And I was talking earlier about the highest best reuse. The trees that were on the job site we first looked at can we reuse these trees for any of our own applications. We just had a demo job in Lincoln where all the trees, all the landscaping we yanked up, and now we're going to put that in our new recycling center we're putting together in Lincoln. That's what we first tried to do with the trees.

The second thing we tried to do was we contacted lumber mills to see if we could get these turned into lumber. That didn't work. We didn't have enough time to get any sort of a mulch product made. So the majority of the green waste was ground and sent to cogen.

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MR. BARROWS: This was our material recovery facility for the Del Webb development, Sun City in Lincoln

Hills. It's a 6500 or 7,000 home development. And this was kind of a nice deal because we weren't subject to CDI permitting since all the material was on site. It was processed on site before it left the site. So we only required a conditional use permit from the City of Lincoln.

For this, we bought in over 40 dumpsters to provide for the development. And they were releasing between 20 and 25 per week and 20 and 25 homes per week were finished or beginning at any point in time. We were very busy here. We purchased our sort line, and all this equipment is the same equipment that processed the World Trade Center debris. This is directly purchased from Taylor Recycling. All the material would go across this.

Now construction material, construction waste is light. It's not like demo waste where demo waste unless it's source separated on the job site, it's so compact it's hard to deal anything with. It's processed down. It's so small to be crammed in trucks. So it's nice when you deal with construction waste. It pretty much falls apart. It's something that can be very easily done with manual labor. And this we did close to I think almost like 300 tons of cardboard per month, 400 tons of lumber per month, just about a thousand tons a month. The material was processed through here, and on average we got

85 percent or greater on materials. And this project is no longer and we're just finishing up the last few homes now.

We tried to get this. Del Webb along with three other contractors are doing a similar development in the Roseville area. Unfortunately, something like this was not pushed there. And we could not compete even as a debris hauler with the contractor who was awarded the project due to flow control. The high tipping fees at the Western Regional Landfill a lot of contractors attribute following flow control. They're making up their own rules thinking they are contractors themselves and it's self-haul when they're hauling. So a lot of material is going to Kiefer Landfill for a very low price, and it doesn't make us competitive to do projects like this which is definitely sad because you know this project alone in partnership with the city of Lincoln really raised their diversion rate I think upwards of almost 70 percent.

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MR. BARROWS: This just shows this is less than just one month's worth of cardboard off of a construction site. It's amazing how many things are packaged in cardboard for construction. Everything from nails, screws, strapping. This is less than one month.

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MR. BARROWS: These are all the plastics, all the CRV off a construction job. Kind of blows your mind all this generated. I mean, you can see it looks like some Tide bottles, milk jugs, everything like that. Imagine a lot of that is coming from these laborers' homes. But also think about a job site this big where you have 2,000 laborers a day. And in the hot summer, think about the CRV if they just each drank one bottle of water, one soda a day. That's 2,000 beverage containers per day from a job site coming into our facility.

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MR. BARROWS: And you should have seen how many beer bottles would show up. That's kind of odd. I think probably some of you have stopped by and seen them before. You get a ten-yard dumpster a day of beer bottles coming out of the back of everybody's trucks. You can see this is a good example of how light the wood waste was and how dimensional it is compared to demolition wood waste that is just pulverized beyond belief. This is easily managed in such a clean product that you can really do a lot with it. You can put it through wood grinders with the dry package and make clean nice mulch.

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MR. BARROWS: This shows our waste pile where you can really see how much cardboard is in it and how light

it is. It's non-compacted like demolition debris. This allowed us to reach the extremely high diversion rate we did see.

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MR. BARROWS: This is a photo of an electrical substation off of a demo job we did about I think a year and a half ago. And this was a nice case where there was no PCB containing oils in it. And we contacted DoveBid. Because this was such a large item, it's kind of hard for us to sell that for reuse in the state of California or in the western states. So we contacted DoveBid, and they helped us match with a buyer overseas that will reuse this equipment.

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MR. BARROWS: And just the last slide in closing -- in 2003, Demolition and Recycling International ranked us the number 90th international for demolition and recycling company. And then 2003-2004, we were number 88. And 2005, we just found out we were the 81st largest in the world. So we're growing. And we are beginning to view problems, not like expanding the existing mouse trap to catch the one or two percent more diversion, but we're looking at the residual to see how we reduce that and help tighten the loop and close that even more.

That's all I have. Thank you.

MS. EDWARDS: Thank you, Adam.

Now that everyone on the panel has had a chance to speak, we'll start the Q and A session. I just wanted to let you know before we get started before the break we had 44 hits from the people in webland. So thank you for listening in in webland.

Do we have any questions from the internet? No. Okay. So I'll turn it over to our mike runners.

UNIDENTIFIED SPEAKER: Mr. Ezekial, you indicated that you had a tracking that you put the tracking system in place to try to quantify the numbers beginning in 2005, was it?

MR. EZEKIAL: Beginning in 2005, that tracking mechanism, that form we had developed and the specification went out to all construction projects in 2005.

UNIDENTIFIED SPEAKER: Do you have any aggregate data from 2005 that you could share with us in terms of you know percentages of materials recycled or total tonnages, number one?

And number two, I couldn't really read the details on the form. But I was just curious whether or not in terms of calculating tonnages what sort of -- do you have sort of a standardized assumption in terms of weight per cubic foot of the materials to calculate? I

mean, if you're pulling up -- you know, well, I think you get the gist of what I'm asking you. If not, I can elaborate.

MR. EZEKIAL: The form was kind of hard to read. To get to your first question, the numbers for 2005 have been submitted to the Waste Management Board for approval for the AB 75 report. So I don't have figures yet for that.

Contractors were not familiar with the forms. Some of the REs were not familiar as to how to implement it and what to do with it. So we have hundreds of construction projects that were out there, and they were getting a handful of these forms. So this next year we're going to try to go out and be more proactive in helping the resident engineers out in construction. So I think this year we'll be getting more of these forms in. We'll be able to get a better number.

While we're developing this specification, like I said, we were still using the form, but it was just going out to one construction project per district. And from looking at those, one construction project would generate a lot of waste debris that was being diverted from the landfill. So the system is working. We're just trying to get a little bit fine tuning it a bit.

So far the contractor fills it out in either tons

or cubic feet. I'm sorry. It was in metric and now we're changing it over to standard because Caltrans is switching over. But if it's not in tons, it will be in cubic yards or cubic meters. And in the Integrated Waste Management website for AB 75, there are some conversion tables we would use for concrete and asphalt to convert from volume to tons.

BOARD ADVISOR BLUE: This is a question for Mr. Barrow. You mentioned that you use CalMAX regularly as well as some other material exchange programs. And I wondered what you thought of the scope of CalMAX as it applies to your business and whether or not you thought it needed to be expanded in any way or if it suits your needs as it stands.

MR. BARROWS: I've put a few things on CalMAX, large industrial lights, that sort of stuff that I've had extreme surplus of. CalMAX has kind of turned into Ebay. It's not really a free exchange anymore, at least from what I've read recently. A lot of it seems like there's prices put next to stuff or if you contact that person there's a price associated with the item they're giving. Craig's List, hundred times better. Craig's List, you put it on there and you have 50 E-mails by the end of the day no matter what it is. Free.

COMMITTEE MEMBER WIGGINS: Mr. Barrows, what are

the rivers in the Two Rivers?

MR. BARROWS: Sacramento and American.

MR. EDGAR: I have a question for Caltrans. I like your tracking generation side of construction projects. Another key component is a procurement of buying recycled materials from off site, like buying mulches and buying compost and buying base rock from other sources. Is Caltrans keeping track of any level of procurement of use of recycled product from off site sources?

MR. EZEKIAL: Certainly, there's the SABRAC report which tracks that purchasing of recycled products. But again, like for a construction project where you're using recycled aggregate base for -- or reclaimed material for a base material, we again allow it. We allow the contractor to use 50 percent, even up to 100 percent. As long as it meets our gradation, we don't track it. We don't require them to submit us any documentation as to where this material is coming from.

MR. EDGAR: That's important on the RAC policy. That's great Caltrans tracks that, because the legislation is moving that issue forward. Recently, I've been sponsoring legislation on using base rock as well as mulches and compost for the last five years to try to get information from Caltrans on use of recycled product and

there have been no tracking at all. So that would be great if you guys would expand your tracking system to do procurement as well in order to create public policy. Because I produce -- my membership produces base rock and mulches from off-site sources. And when we try to work with Caltrans on that, they don't have a clue how much is being used in order to promote a good public policy on procurement.

MR. EZEKIAL: I think you were saying mulch, right? I think that is tracked on the SABRAC report. I can try to get that to you.

MR. DICK: Hi, Mr. Ezekial. My name is Greg Dick. I work with the Board's C&D/Green Building Program. And I saw that you had these specifications for CMB up there, but can you tell me if Caltrans has a spec for asphalt shingles into the asphalt mix?

MR. EZEKIAL: I don't believe that is allowed at this time to use the asphalt singles into our asphalt pavement. Some specifications, not for Caltrans, but it is allowed like for parking lot use and other things. But when it's on a freeway with the high truck volume and traffic volumes, so far from tests what I've heard we're showing it wasn't working.

MR. DICK: Because I've seen a number of states are moving that direction. Even Texas is starting to use

recycled asphalt shingles. And I would like to see Caltrans move that direction as well and see if we can figure out a way to make that happen.

MR. EZEKIAL: Okay. I know who we can ask on that.

UNIDENTIFIED SPEAKER: Hi. For Adam Barrows. We are wondering how many homes did you say the development was, Del Webb?

MR. BARROWS: Approximately 6500.

UNIDENTIFIED SPEAKER: And did you manage it like the construction debris that was all just hauling --

MR. BARROWS: Yeah. It was construction --

UNIDENTIFIED SPEAKER: So you don't do construction. You were just handling the material from it?

MR. BARROWS: Yeah. Correct. We were handling -- I mean, there are numerous contractors out there, three plumbing contractors managing at any given time. So we were the waste hauler. We had become a franchise hauler for the city of Lincoln. And we owned and operated a material recovery facility. So even on the waste that we were hauling from those homes and the short distance into our facility and we were hauling to the landfill we had to pay franchise fees on it.

UNIDENTIFIED SPEAKER: Thank you.

MS. CARDOZO: Glenn, I have a question for you. Did I hear you say that the City of Irvine the City Council was supportive of your efforts in requiring that diversion to be built into the plans for the design of the Great Park?

MR. WORTHINGTON: You're correct. The City Council does support that effort on the base.

MS. CARDOZO: Can you speculate why -- I've heard a lot of times City Councils are not supportive of those kinds of requirements of diversion. Can you speculate why maybe they were in this place?

MR. WORTHINTON: It's tough always to speculate on why elected officials choose to do anything. But in this particular case, you know, there's kind of a back story here. Our agreement with the recycler who's going to do the runway recycling a little more elaborate than this, but simply stated is they're tearing up all that material for free for us. But then they own the material and then we have to buy it back from them at market minus, and obviously we're still negotiating what market minus means.

But the one key component I think in that decision was that we were able to find -- actually we went through an RFQ, RFP process and we found not just one by five different recycling firms who said to us they could

pick up all that material for free. We have to give them a 60 acre recycling yard and we have to give them some things to do that. But essentially we're getting the removal for free. And I think that was one of the things that made the Council think it was a good idea to push forward with doing recycling.

MS. EDWARDS: Are there any other questions? Okay. Then we'll go ahead and wrap up.

And I wanted to let you know first, as we've done with previous workshops, we'll be posting the presentation on the website. We're doing a DVD, so that will be available, as well as an audio tape of today's forum.

If you have additional questions on these topics, you can always address them to myself or Zane Poulson. If they're local government questions, Zane Poulson and Maria Kakutani. For industry related questions, Clark William. And these are CIWMB staff and RMDZ related questions, there's a link to the zone administrators for that program. And for the speakers today, we'll be contacting them and getting their blessing to provide their contact to you along with all the resources we collect from today's forum.

So to conclude I'd like to thank you all for attending -- oh, sorry about that. I gave the general number. Sorry. So that's 6488 for Clark. Thank you,

Clark. And thank you, all of you, for attending. And a big thank you for both of our panels, all the panelists. It was valuable information that I'm sure will be useful to everybody. And thanks for making it a great success.

(Thereupon the California Integrated Waste Management Board, Construction and Demolition Forum adjourned at 1:00 p.m.)

CERTIFICATE OF REPORTER

I, TIFFANY C. KRAFT, a Certified Shorthand Reporter of the State of California, and Registered Professional Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing hearing was reported in shorthand by me, Tiffany C. Kraft, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing nor in any way interested in the outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 2nd day November, 2006.

TIFFANY C. KRAFT, CSR, RPR
Certified Shorthand Reporter
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